The Builder.

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A Fresh Glance at the Building for the International Exhibition.

WE must all feel a new, though perhaps unspoken, interest in the fortunes of the Great International Exhibition. Few will place their feet within its portals without a sense of loss—a sensation that the head stone of the corner is missing. But out of this very feeling, the success of the undertaking is ensured. Every individual visit, from that of the highest to that of the lowest, will represent, so to speak, the stone thrown upon the cairn—the unit that will render the whole a fitting monument of respect to the Prince who made the scheme of international exhibitions his own.

The events upon which the year closed in were certainly of a nature to raise the gravest doubts as to the success of the undertaking. Apart from the prospect of our own rupture with America—which now, happily, appears to be remote—the American difficulties were telling upon us in the necessary re-adjustment of our commerce consequent upon the veering of our Atlantic traffic towards India and the colonies. Many trades suffer by this change; and all must feel it to some extent. But the leisure thus enforced has, we know, been turned to advantage on many sides by the manufacture of objects demanding extraordinary skill in manipulation; so that, in this way, we may, after all, be gainers by the turn things have taken. Europe is looking forward to the World's Fair with undiminished curiosity and expectation; and France, especially in the costly manner in which her courts are to be fitted up—with back-ground of mirrors and consistent decorations,—shows that a rivalry may be expected from her sons that should stimulate the best efforts of our manufacturers.

The building in which the Exhibition is to be held is, of course, becoming more and more an object of attention, and much is now to be seen there that will interest our readers. The first effect on entering the building falls more upon the ear than upon the eye. There is a clanging vibratory roar as of a vast iron shipbuilding yard, a railway terminus, and a midland county manufactory, all in full career under one roof: then various distinct noises can be clearly made out,—the driving of nails into wood, with the preliminary tapping, followed by the full hammering that sends them home; the silvery ring of innumerable trowels; the chipping of bricks; the dull splash of plaster, with the gondolier-like chanting of the men who have close and comfortable quarters, such as generally fall to the plasterer's lot; the shrill screams and hissing steam from stationary engines; the clanking of iron; the rumbling of carts. Then the eye begins to take in impressions. These are, at first, almost droll. Pieces of iron of every size and shape are lying about in heaps, all lettered and numbered, ready to be fitted into their places. In the vastness of the building these appear of diminutive proportions; but on trying to lift some of them their colossal length and weight are evident. Many of these pieces of iron are of the oddest shapes, such as we might suppose young Vulcan had for playthings. Bolts, round-headed and wormed, like the staves of special constables; pieces into which the bolts go like great stair-rod eyes; others flanged and hooked, as though intended to draw teeth; rings of iron of all sizes, breadths, and thicknesses, some like the collars of ship-masts, others like great quoits, some plain, others bored with holes. Then there is an immense monkey, of gorilla proportions, for pile-driving, lying useless on the floor, its occupation gone; and iron nuts strung on wire rods like beads upon a string; piles of nut-plates; grindstones; casks of oil; casks of tar; casks of putty; iron bracket pieces; ladders ninety rounds high; lengths of iron split at one end, tuning-fork fashion; others rounded, flanged, and rebated, rebated and flanged, and double flanged; iron rods shaped like pincers at one end, with a nut and screw at the other; iron rods flanged and shaped like toddy-ladles with long handles; great pieces of iron, arrow-headed and flanged, like so many battering-rams; boxes of glass, and piles of sash-bars are among the oddments lying about on all sides. An enormous travelling scaffold, on twelve wheels, occupying three sets of rails, each of 18 feet gauge, fills in the width and 80 feet of the height of the great central nave, and is moved backwards or forwards on the rails as it is wanted, so that all parts of the sides and roof of the nave can be easily reached. This is in form like the Mediæval war-engine, called the cat, which was placed over moats to get at the parapets of castle walls, and was provided with flying bridges, or scaffold stages, capable of being adjusted to any height; and it also calls to mind the lofty permanent wooden scaffold on drum-wheels in St. Peter's, Rome, that is kept and used for the purpose of cleaning the ceilings. A little farther on, a monstrous Catherine-wheel-like framework, some 50 feet in diameter, calls the attention, and proves to be the complete framework of a gable end. More striking still are the great diagonal girders, forming, in heraldic phrase, a cross saltire, on which are being framed the double staircases to get at the galleries, and whose straddling form serves the two-fold purpose of a brace to the structure, as well as of a groundwork for the staircases. And so by degrees the eye takes in the specialities of the building.

As we pass, the co-operative nature of the work is noticeable. The girders of roofs and floors and iron columns, when fixed, serve as scaffolds whence to fix more, and for slinging cages in which to move men up and down; and the floors of galleries and basements do double duty as drawing-boards. The grasp with which our modern appliances are brought to bear is also noteworthy—gas and water are laid on, railways and tramways laid down, and turn-tables, and every other mechanical contrivance for the saving of hard labour, thought of and used.

The feeding of the building is going on all day. Large waggons, with the names of Kelk & Lucas painted upon them, drawn by handsome dray-horses, are bringing in supplies that appear inexhaustible. Foundries, factories, and workshops, in different parts of London, furnish various materials, and these are also continually flowing in. The supply of material, indeed, is one of the wonders of the work, and gives rise to the conclusion that, should there be any delay in the finishing of the building, it cannot possibly be imputed to any failure in this department. As the respective trades are following up each other as closely as possible,—the carpenter coming quickly upon the bricklayer and smith,—the glazier keeping close up to him, and the painter pressing onwards close upon the heels of all,—the labour department on the spot would appear to be quite as removed from the liability of blame, should the ultimate want of punctuality incur any. But of this we have no fear.

Among curiosities in the way of exigencies on the ground floor are the numerous sheds, a great blacksmith's forge, and the different offices for clerks, of which, that of Mr. Clemence, one of the managers, has glass on all sides, so that he may see what is passing in any direction. There are printed notices here and there which are characteristic of the place and of the operations. Visitors are cautioned not to pass beneath workmen who are engaged above them; and 5*l.* reward is offered for the discovery of the perpetrator of the malicious cutting of the "falls" at the eastern dome, whereby the lives of several workmen were endangered. And there is a notice of a sick and accident fund,—subscription, 2d. per week.

To see 4,000 men at work on one building is a sight worthy of contemplation. Among these skilled men in their allotted places at their allotted tasks, with no shirking anywhere and no driving taskmasters to be seen, there is an appearance of personal interest in the progress of the work that makes the spectacle even more telling. Shipwrights, sailors, ship-carpenters, bricklayers, plasterers, house-carpenters, joiners, coppersmiths, ironsmiths, steelworkers, painters, glaziers, labourers of all nations, are employed in honest labour for honest pay at a season of the year that is often characterised by compulsory idleness of many weeks' duration. By division of labour, and sub-division of contracts, each small set of men in the various trades and departments bring about a great result—all are for progress; and there is no coercion. We cannot but contrast this state of things with the mode in which public works were conducted in the ancient world. Cheops's pyramid, every one has been told, was raised by compulsory labour—100,000 men working at a time in periods of three months' duration. With all this labour it took ten years to construct the road along which to draw the stones, and twenty more to raise the pyramid itself. An inscription upon the pyramid shows us that the bill of fare of the workers consisted of three dishes—radishes, onions, and leeks. The palace of Nero was a work of a similar comprehensive kind to that which we are now viewing, as it contained gardens, lakes, and parks within its walls. The principal entrance was so lofty as to admit of a statue of Nero, 120 feet high, being placed in it; and the principal hall, built in a circular form, possessed a complicated piece of machinery for a ceiling which revolved in imitation of the heavenly motions. But here again this splendour was produced by the practice of the most tyrannical oppression. A third instance might be cited from an incident in the annals of our own country,—the march of Septimus Severus against the Caledonians, in the course of which his legions were obliged to hew their way through intricate forests, to drain marshes on their road, to form bridges over rapid rivers, and to build the famous wall, upon every mile of which was planted a tower, and through every mile of which ran—a rough prescience of the electric telegraph—pipes of brass, so that communications could be made from tower to tower with what, until our own times, was called "incredible rapidity." But all this was effected with so much hardship and suffering to the workers, that 50,000 men died of fatigue and sickness. The difference between the unhappy state of these past-away workers and the prosperous condition of the workmen of our own time, is perhaps most apparent on this building at the dinner half-hour, when both the engines employed in hoisting materials to the domes set up a loud scream of three or four minutes' duration, and there is a rush of men and boys, who come sliding down ladders, leaping off planks, and by other unexpected modes lessening the distance between them and their dinners. At the entrances of the building there are men with soup-cans, hot coffee, cakes, beer, and hot potatoes, for sale, towards whom there is a great scramble, so as to get first served; and there are also many women and children bringing their own dinners as well as that of their husband, brother, or father, with whom they thus dine together, although in a rough way. Bread and cheese,

bread and pork, bread and coffee, or a can of soup with hot potatoes, are certainly more nourishing and savoury than the radishes, onions, and garlics, of the ancient Egyptians. But a great improvement could yet be made in the comfort of this meal at very little cost. As it is, the men sit about, perched on scaffolds, or squatting on the floors or on the rough materials, under cover or not, as the case may be; while, if the use of a shed or two were provided for the dinner half-hour, the men would be sent back well warmed to their afternoon's work. As it has been ascertained that it will pay so well to feed the visitors who come to see the building when finished, it is rather curious that it has never occurred to any enterprising *restaurant* that it would be a profitable speculation to feed the workmen who are engaged upon its construction. Whilst considering the convenience of the workers, we ought to protest against the publicity of the substitute for W.C.s in the northern court—which is simply a long horrible trough, quite exposed at both ends.

The building, as a whole, is fast approaching completion, although on inspection, there appears to be plenty of work yet to be got through. Externally, the easternmost end of the nave has just had the gigantic brick arch rim, the whole width of the nave, turned: the net-work of scaffolding is still up, and a great deal of brickwork above has to be added. The eastern dome is making great progress: all of the wrought-iron plate ribs are fixed at their bases, and completed up to the crown; whilst the remaining ironwork, lettered and numbered, is lying on the ground, waiting to be taken up and placed. The framed and braced partitioning, and the mighty core of scaffolding still occupy the whole of the interior of the dome, so that the internal effect cannot yet be realized. The north-east and south-east transepts are well forward: they are roofed in, and the roofs are covered with felt: the clerestory windows are glazed, and portions of the floors laid. The parts immediately adjoining the domes are, however, of necessity, kept uncovered to permit of the construction of the domes.

The western façade is, perhaps, a trifle more forward than the eastern, as more brickwork is finished above the wide arch at this end of the nave; but it is waiting for the further progress of the western dome, which has not so many ribs completed as its sister in the east. The south-west and north-west transepts are equally forward with those of the opposite end, being roofed over, with clerestory windows glazed, and the floors being laid, the junctions of the transepts with the dome being only in arrear, waiting the completion of the dome. The springers of the plate iron ribs of the dome, twelve in number, are fixed, and the remaining portions of the ribs are ready on the ground below; but the hoisting and placing them are works of time, care, and difficulty. Men are stationed below, with red and blue flags, to signal to the engine-man, as each piece is raised, to regulate any stoppage or easing that may be required in the process. If the weather should continue as propitious as it has been, there will be little doubt that all will be finished in good time. The ribs once up, the filling in between them will be soon effected. Stepping into the Cromwell-road, the south front of the great arcaded picture gallery appears finished, with the exception of the central portion, where the entrances to the grand staircase are still under the bricklayer's hands. The towers, with their mansard roofs, conical skylights, and ugly parapets, are finished, even to the fixing of the flag-poles in the centre of them, with the exception of the cement decorations with which the cornices and capitals will, we presume, be dressed, seeing that these are roughed for the application of some such covering. The recesses of the arcades are cemented, as the walls are thin, and too near the picture gallery to be trusted alone. The external effects of these recesses, however, so cemented, are anything but sightly contrasts to the excellent brickwork of the rest of the front, and in their present condition are eminently suggestive of the colossal advertising recesses peculiar to railway termini. Experiments are to be tried in these recesses, of the application of external mosaics. We have been long surprised that external mosaics have not been applied in this country before now. The southern courts abutting on the picture galleries are also in an advanced stage; they are roofed, glazed, and floored, and the painters are hard at work. The great nave, which differs in its construction from the rest of the building in having a wooden framed roof, is roofed, boarded, felted and tarred; the clerestory windows are glazed, and the painters are putting on the first coat.

An experiment in the way of decoration has been made in this wise: the principals and front columns are painted a rich salmon colour, with black and white stripes upon the purlins of the roof, and round and diamond-shaped white spots are distributed over the bolt heads, which are surrounded by black dots. This latter ornamentation has but a petty effect. Considerable lightness is given to the boarding of the roofs by painting every three boards, which are laid diagonally, in stripes of cream-white and grey alternately; the rear square upright columns being grey. The theme of the colouring is similar to the Giottoesque decorations at Assisi. To adapt it successfully to the difference of our sky tones, will require the exercise of additional skill. By keeping the horizontal lines of the purlins distinct, the perspective effect would be aided. A little gold in the roof-decoration would have the effect of conveying a required warmth of tone as well as a sense of enrichment that would be further grateful to the eye. Second and third trials—those of a green and yellow-ochre decoration—present a result that cannot be thought of twice.

The only arrear of consequence appears to be in the northern courts and façade, including the space over that allotted to the refectories. The southern arcade of the Royal Horticultural Society's gardens has been lent to the Exhibition for refreshment-rooms; and we most highly commend this arrangement. As this arcade faces the north, and overlooks the beautiful gardens of the Society, the refreshment-rooms will be cool and very pleasant in the summer. The army of bricklayers at work at these points, principally on the high northern wall of the northern courts, have good reason to be thankful, as also should be the workers at the exposed elevations of the domes, that the mild weather—the thermometer at forty degrees on the 1st of January—modifies the biting cold the northern aspect of their work might have caused them to endure. The girders and roofing are here as much behind-hand as the brickwork. The columniated opening which forms the entrance to the Horticultural Gardens is also backward; for although the stone columns are in their places, covered with shavings and wood—looking like rare monoliths yet in packing-cases,— the roofing and upper parts of the walls are unfinished. The long aisles attached to the north-west end of the main building, called the Annexe—illustrated in our pages—are all roofed in, and an additional annexe is now being formed at the north-east end of the building, in the same economical form of construction, to provide for the great demand for space.

The general effect within recalls much of the impression produced by the first building, notwithstanding the very sensible differences in the construction and materials. Probably there never has been raised a building where economy has been brought to bear so rigidly upon construction. There does not appear to be a superfluous ounce in the lofty iron pillars, nor in the great spanning girders; or the light tie-rod roofs: and the principals are placed at the greatest possible distance apart that is compatible with a likelihood that they will be able to perform the offices required of them. Yet for the most part all looks satisfactorily sound. One of the least agreeable instances of thrifty economy is observable in the formation of the ground floorings in the southern courts. The dwarf piers which occur at intervals to lessen the bearing of the long joists are formed of brickbats, with packings of odd scraps of wood built up on artificial foundations of shavings, bark strippings from scaffold-poles, and muddy earth.

The whole construction of the ground-floors exhibits instances of near shaving in quantity of material, and hasty workmanship, that are scarcely creditable, if entirely safe. The boarding is rough-sawn and only an inch thick, irregularly laid; and the joisting cut and nailed in the most temporary manner to the sleeper joists—the sleeper piers being formed of bits of material, as we have described. This extremity of economy produces in the mind a sense of weakness, not to say of expectation of early sinkings and inequalities. Whether an impression of weakness upstairs, too, is altogether groundless, will be seen when the galleries are fully tested—as we presume they will be—before the building is thrown open to the public. The flooring throughout is the least satisfactory portion of the workmanship, which is for the most part very good. It must not be supposed, however, that we see nothing to find fault with: the exterior, so far as it can yet be judged of, is monotonous and ugly; while the treatment of architects in the matter was far from being to our satisfaction: but our present purpose is simply to give a notion of the progress that is being made and the aspect the place is taking. It must be considered a very remarkable work, let the objections be what they may.

ON THE CONSERVATION OF ANCIENT ARCHITECTURAL MONUMENTS AND REMAINS.*

IT may, perhaps, appear that I should offer some apology for occupying your attention with a subject at once so trite and so uninviting as that which I have chosen as the title of this paper. If so, I would say in reply, that it was intended for our opening meeting, and that those meetings seem to me to demand, as the leading subjects to be discussed at them, matters of vital importance to our art, rather than of an amusing or highly interesting character; and that I hold the subject I have chosen to be, however trite, one of the most pressing importance.

I assume as my starting point that every member of this Institute appreciates the immense value—to any country which possesses a history and a civilization—of the monuments and remains by which that history and civilization are illustrated.

The value of such monuments of the past is greatly enhanced when they illustrate the rise and development of a special style of art; still more so when that style of art is one of great and acknowledged merit; and yet more than all when it is one which has proved worthy of revival and re-development.

Those among us whose taste and education have led them to a more especial appreciation of the art of the ancient world will feel how strongly these remarks apply to the precious monuments and relics of Greece and Rome, and of the countries over which their arts and influence extended. These illustrate a history and a civilization the most wonderful in its character: they illustrate also the development of a style of art the merits of which no one has ever presumed to question, and which has been revived and re-developed in more recent ages; and, as a natural consequence, every relic of these arts, however fragmentary or obscure, is searched out, delineated, and, when possible, protected and preserved, with an amount of zeal and assiduity proportioned to their importance, and which does honour to that modern civilization which so keenly appreciates and rejoices in that of the past.

Should not, however, the same feelings and the same care, zeal, and assiduity be extended to the monuments of our own race and our own country? Have we not a history as glorious and, to us at

* Read by Mr. G. G. Scott, R.A., at the Royal Institute of British Architects, as elsewhere mentioned.

least, as interesting as that of the great nations of antiquity? Have we not a civilization as noble as theirs? and should not the monuments which illustrate that history and civilization be as precious in our eyes as those of Greece or Rome?

Added, however, to the value which these remains ought to possess in our eyes as Englishmen, they possess *intrinsic* claims parallel to those of the works of the great nations of antiquity. They illustrate the development (and especially our own share in it) of a style of architecture as marked in its character as theirs; and the merits of which, though long neglected, are now appreciated and acknowledged by most of us; and have, just as in the case of the Classic styles, led to its revival and re-development.

Let it be clearly understood that I am entering upon no controverted questions,—I am instituting no comparison between the intrinsic merits of the two phases of art,—nor asking any assent to more than the *fact* of their revival. On all such questions we may hold our individual opinions; and yet may all agree to what I wish to lay down as the ground-work of what I desire to say—that our architectural monuments possess claims upon our care and conservation precisely parallel in their nature to that which we accord to those of classic antiquity, but with these two preponderating points in their favour,—that they *are our own* monuments, and that *we* are the parties responsible for their conservation.

I would next bring under your consideration the melancholy fact that, though our country is studded with these relics of the past, they are every year being reduced in number; and that those which remain are constantly subjected to the danger of destruction or deterioration from many different causes; among the chief of which I may enumerate,—

I. Natural decay and dilapidation, which are greatly enhanced by the destructive climate to which they are exposed, and still more by neglect.

II. Wilful destruction and ruthless mutilation, together with alterations suggested by the passing requirements of the day, or by individual caprice.

III. The yet more destructive inroads of *over restoration*.

These three causes or classes of causes threaten, in a degree so imminent and so alarming, the existence, the integrity, and the authenticity of our ancient architectural remains, that I feel it to be high time that this Institute, together with all local architectural and antiquarian societies, should take it into their serious consideration, both severally and jointly, what measures can be adopted to arrest the evil before it be too late.

Our ancient architectural remains may, for the most part, be classified under the following heads:—

I. Mere antiquities—such as Stonehenge, the cromlechs, and many of the remnants of Roman structures; though the latter often contain objects of art, as mosaics, pavements, &c.

II. Ruined buildings, whether ecclesiastical or secular, such as abbeys, castles, &c., &c.

III. Buildings still in use as churches, houses, inhabited castles, &c.

IV. Fragmentary remains embodied in more modern buildings, such as those which usually exist within the precincts of cathedrals, and often in old houses and country mansions; to which class may be added a vast amount of interesting and valuable fragments, mainly of domestic architecture, and often,—though of a simple and even rustic character,—of great practical importance to the student of our old architecture, to be found among our country villages and in the scattered houses of the farmers and the peasantry, as well as other miscellaneous remains.

On the first of these classes,—that of a purely antiquarian character,—I will not trouble you with any remarks, as I think that our antiquaries are sufficiently alive to their value, and exercise a wholesome vigilance in respect of them. It is not in general this class of ancient remains which is most in danger, though it behoves every one who has it in his power to do his very utmost for their preservation.

The second class, however,—that of ruined structures,—is one which demands much and careful consideration; and it is one towards which the salutary vigilance of our Institute and of kindred societies might, with great advantage, be directed.

The very condition of a ruin of necessity involves liability to rapidly increasing decay, and the probability of speedy destruction; and it so happens that two great events in our history—the dissolution of monasteries in the sixteenth and the dismantlement of castles in the seventeenth century—have reduced two important classes of architectural edifices to this hopeless condition.

As regards ruined castles, it fortunately happens that the massiveness of their construction enables them in many instances to offer a fair amount of resistance to the elements; and that the simplicity of their architecture causes them to lose less from mere decay than structures of a more decorative kind.

Such is not, however, always the case; and I would most strongly press upon those who have the charge of those stern historical relics to guard them against the effects of time and mutilation; and upon antiquaries and antiquarian societies to make periodical examinations into their condition, and to advise their proprietors as to such timely works of reparation and sustentation as may arrest the hand of time without tampering with their antiquity: and, if their natural guardians refuse the necessary protection, to raise funds by private subscription for the purpose.

When we come, however, to ecclesiastical ruins, the case becomes infinitely more pressing.

Unlike the great works of defence just alluded to, these edifices were not erected with a view to resisting any but the ordinary causes of destruction to which buildings are subjected. Their structure is comparatively light, and in principle trusts for stability to the nice equipoise of arches and abutments, and presupposes the protection of a roof. It is, therefore, a matter for wonder that, after more than three centuries of exposure, unroofed and uncared for, and though often used to supply materials for surrounding building, their ruined forms should, in so many instances, have reached our time in a condition which enables us in any degree to appreciate their merits or their design.

Happily, however, though great numbers of them have ceased to exist, very many precious remains are left to us; and these, instead of being, like those of castles, stern and almost forbidding in their undecorated grandeur, are for the most part exquisite and highly-finished architectural productions, equally valuable and equally beautiful with our glorious cathedrals; and, in their own phase of art, as classic and as perfect as the remains of antique art which we so much cherish.

Now, the two points to be considered are, first, can we expect these precious fragments to endure much longer? and, if not, what can we do to promote and prolong the continuance of their preservation?

On the first question I fear that the reply cannot be very satisfactory. Those who have for any considerable course of years been in the habit of revisiting any particular ruin can scarcely fail to have observed how sensibly and how surely the course of decay, disintegration, and downfall has progressed, even where there has been no deliberate mutilation.

The decay of the surfaces seems to have of late years redoubled its speed. I have revisited buildings,—and particularly *ruined* buildings,—where twenty years earlier I had been able to make minute sketches of delicate carved work, and found the carving now become unintelligible. In many of the best preserved ruins we find the surfaces of the mouldings and carving covered with an ever-fresh pulverulence. If you visit a building in this exposed condition, after a hard winter, you are sure to find fresh spots where the details have fallen off through the recent frost; and in every ruin there occur, from time to time, slips and downfalls of greater or less importance; showing that, long as they have resisted the assaults of time and weather, there are limits to their duration; and that those limits are by no means distant.

How many of our ruined buildings have lost large portions within the memory of man. The Abbey of St. Augustine, at Canterbury, has lost its great tower within no very distant period; and I myself remember the newspaper notice of the fall of the central tower of Whitby Abbey, carrying away with it large portions of the surrounding building: indeed, such downfalls, if their statistics could be collected, would be found to reach an alarming number and amount; while the silent and yet more fatal progress of decay is every day and every hour eating into the most beautiful and most precious architectural details.

And how could it be otherwise, when walls constructed of small stone and rubble-work are exposed, with no protection but ivy and wall-plants, to the constant action of the most destructive of climates; when every shower penetrates the crumbling mass, and every frost has its full swing in its disintegration; and even the more solid stone, from being kept in a constant state of saturation with water, has every cause of destruction in full and continued operation upon it,—and all this for centuries together?

Nor have these been the sole agents of destruction. Many, indeed the great majority, of our noblest abbey churches, and even some cathedrals, have been taken down for the value of their materials; and those which were left as ruins were, for the most part, spared more because there was no market for their material than for any care for their preservation; and it naturally follows that they would become the quarries which would supply all the petty buildings around them.

Perhaps the most remarkable case of this is at Reading, where the walls of the Abbey have been stripped of their ashlar, both without and within, and the rubble core only left; yet such is its extraordinary strength that it still holds together in perfectly solid and compact masses; and where fragments of the tower long since fell they remain to this day, protruding from the ground at the same angle at which they first reached it, and look like masses of rock cropping out of the earth.

This has been continued in many instances up to our own day; and even now it is occasionally found in a certain degree to hold good, as at Easley Abbey, in Yorkshire, where the lower part of the buttresses appear to have been comparatively recently pulled down, as being the parts most easily got at; while the upper stages, being out of reach, are left unsupported and dragging over the walls which they were built to stay.

For the most part, however, it is neglect and the want of timely care which we have now most to complain of. I heard the other day of a considerable portion of a ruined abbey in Norfolk falling down, and this on the property of a great lord, who, I am sure, would have taken proper precautions had his attention been called to it by any one qualified to give an opinion.

The proprietors of these melancholy yet glorious remains, though valuing and caring for them as picturesque ruins, frequently seem to forget their value as works of art; and to prefer risking their falling to pieces bit by bit to the trifling interference with their picturesque effect which would be incurred by a little timely reparation.

Now, what I wish to bring before you as the practical result of what I have been saying is the absolute necessity for such reparations, if we desire to hand down these precious architectural relics to our successors.

In defining what the nature of such reparations should be, one may use the words of Mr. Ruskin:—

"Take proper care of your monuments, and you will not need to restore them. . . . . Watch an old building with an anxious care: guard it as best you may, and at *any* cost, from the influence of dilapidation. Count its stones as you would jewels of a crown: set watches about it, as if at the gates of a besieged city: bind it together with iron where it loosens: stay it with timber where it declines: do not care about the unsightliness of the aid; better a crutch than a lost limb; and do this tenderly, and reverently, and continually; and many a generation will still be born and pass away beneath its shadow. Its evil day must come at last; but let it come declaredly and openly, and let no dishonouring and false substitute deprive it of the funeral offices of memory."

The great objects of such reparation are, protection against the penetration of water into the walls; support, to prevent downfall from the failure of foundations, abutments, or the sustaining work, whatever it may be; and, lastly (if such a thing be found to be practicable), the preservation of the architectural details by some indurating process which will arrest their decay.

None of these need, if judiciously carried out, materially or permanently affect the picturesqueness of the ruin: and I need hardly say that they *must* be done so as *in no degree at all* to infringe upon the authenticity and genuineness of the work. The case is wholly different from *restoration; protection* and *preservation* being the sole objects.

It would, however, be dangerous even for such works as these to be carried out by ignorant persons. They demand the careful vigilance of the antiquary and the architect, to see that the value of the remains is not injured.

It seems to me that there ought to be a kind of *vigilance committee* appointed for every district by our Institute, in conjunction with antiquarian societies, whether general or local; that these committees should not only themselves take every opportunity, whether collectively or by their individual members, of inspecting every architectural ruin within their district; but should take public measures for inviting information and suggestions respecting them; that they should from time to

time report to the proprietors of such remains, and suggest what reparation is needed; and that they should take measures for obtaining funds for them when they find that such aid is necessary. They should also obtain permission to direct what is to be done, and to have a *veto* upon anything which would be injurious.

For protection against the admission of wet from the top of the walls, much could be done by coating them roughly on the parts invisible from below with a concrete of cement and fine gravel; by resetting loose stones in cement; by filling in with the same material cavities and open joints, cracks, &c.; always taking care, so far as possible, to do this in a manner little, if at all, visible from below. In extreme cases, where arches threaten ruin, it may be desirable to go the length of erecting centres below, and rectifying them, and filling in the joints with cement.

When any large mass of a wall threatens to fall, shores should be applied, the foundations examined and strengthened, if necessary, loose stones keyed in, open joints filled, and, in very bad cases, bonded; but this should be done under the eye of a person who has a feeling for the work, both on its own account and as a picturesque object, so as to avoid any unsightly tampering with the old work. The only cases where such is necessary seem those in which the shattered piers or walls are insufficient for the weight they have to bear. In such cases they must be underbuilt, buttressed, or propped in the same way. Here it will be best to make the new work rough and of old materials, but in no degree to mask it, but rather to make it manifest that it is only added to sustain the original structure.

It is clear that in such cases it will be best to call in an architect, provided he is one who has an earnest care for the conservation of the work, and a full appreciation of the value of its authenticity.

I may here mention that the west front of Croyland Abbey, which threatened immediate fall, has been of late rendered, as I hope, permanently secure by means of repairs, such as those alone suggested, carried out under the influence of the Lincolnshire Architectural Society.

The importance of applying to the finer details a preservative and indurating solution, if such is to be found, is almost as great as that of the upholding of the masses: the pulverization of the surface seems in many cases to be going on at a constantly accelerating pace, and threatens the speedy loss of the true forms of the mouldings and the sculpture. At Fountains Abbey, perhaps the best cared-for of all these remains, I have observed the constant degradation of the mouldings from this cause: if we could save them by such a process, it would be worth anything.

In the interior of Westminster Abbey, I am gradually indurating the mouldering stone in its present state, and securing it (as I hope), from further decay; and it is not unreasonable to hope that a process will be found which will do the same for external work.

Besides, however, doing what is possible for the conservation of these invaluable remains, we ought also to see that there is no part of them which has not been thoroughly and carefully represented and measured.

I think a society ought to be formed, or a united effort made by different existing societies, for the perfect delineation of our ruined buildings. A good deal has been done by Mr. Sharpe, Mr. Potter, and a few others; but the thing has never systematically been taken in hand.

Now that we understand and appreciate the value of the remains of our ancient architecture, it is a standing disgrace to us that we allow them to remain without perfect and authentic illustrations being made of the whole and of every detail; and, where it can be done without disfigurement and without endangering the tender and pulverizing surface, a cast should be taken of every carved and sculptured portion, which should be deposited in some permanent national collection, with a full description of the parts to which it belongs.

Photography may also be most usefully brought to bear upon the subject, but must not be implicitly trusted to, on account of the uncertainty of its duration; but whatever the modes adopted, it will be monstrous if we allow the most valuable of our ancient architectural remains to become disintegrated, and their exquisite details lost, without having placed upon record perfect and absolutely authentic representations of every portion of them.

Let us prolong their existence to the utmost limit, but, at the same time, provide against their dissolution by perpetuating their designs, in some form which will exist after the glorious originals have passed away, or become unintelligible from decay.

I now come to the third class of ancient remains—buildings still in use.

Here we come at once within the region of controversy, of animadversion, and regret; for here we have united in one *all* the causes of destruction and deterioration,—natural decay, neglect, wilful destruction and mutilation, and the now so prevalent operation of *over-restoration*.

I must beg, before I proceed, that it may be clearly understood that, in any criticisms I may express on the course followed by others, I do not wish or expect to exempt myself from equal blame where I deserve it. *We are all of us offenders in this matter;* and to abstain from speaking plainly, lest we should be ourselves blamed, will be a course at once cowardly, and treasonable against those principles which one every day more strongly sees to be right, however conscious one is of continual departure from them.

In speaking of ruined buildings, I have fully and cordially adopted Mr. Ruskin's principle of mere *sustentation*. For such remains it is clearly right. This, however, cannot be strictly acted upon in dealing with churches and other buildings still in use.

Viewing them solely as original architectural remains, one would desire, were it possible, that the same abstinence from all but mere upholding should be applied to them; but, in the first place, it is clearly wrong to treat the houses of God as mere architectural specimens to be stereotyped in their present state of mutilation and decay for our study and instruction; nor, if it could be proved right, would it be possible to convince their guardians that such a course should be followed; nor in the case of houses and other secular buildings, to induce people to inhabit and make use of ruins to gratify our sentiments towards them.

It may, then, be laid down as an absolute certainty, that buildings whose use is continued must be kept in, or put into, a seemly state of reparation; and it is, therefore, both our duty and our interest, instead of opposing what cannot be prevented, to do our best to lay down laws for ourselves, and suggest them to others as guides in carrying out the works which of necessity must be done.

The great principle to start upon is, to preserve the greatest possible amount of ancient work intact; never to renew a feature without necessity; but to preserve everything which is not so decayed as to destroy its value, as an exponent of the original design; never to add new work, except in strict conformity with the evidences of its original form; never to mask over or smarten up old work for the sake of making it conformable with new; never to "restore" carved work or sculpture, but to leave it to speak for itselves; and, generally, to deal with an ancient work as with an object on which we set the greatest value, and the integrity and authenticity of which are matters which we view as of paramount importance.

These principles are, however, much more readily laid down than acted upon;—so much so that, to one who holds them, the process of restoration is one of continual disappointment, vexation, and regret; for, labour as you will to act up to first principles, innumerable hinderances stand in the way of their realization.

Sometimes the stone is found to be so utterly disintegrated that it is with the utmost difficulty, —here a bit and there a bit,—that you can trace out by laborious study what were the original details; and to attempt to keep these bits seems as hopeless as to preserve a body which falls to dust as you look at it.

Sometimes, when this is by no means the case, a barbaric builder, or clerk of works, or an overzealous clergyman interferes in your absence, and destroys the very objects you have been most labouring to preserve.

A conscientious representative having been blamed for incurring extras in one place, makes up for it in another by introducing, before one is aware of it, a sweeping clause, which condemns quantities of work one meant most religiously to preserve; and, from one cause or another, one is always finding one's intentions more or less frustrated.

Still, however, this is better than acting on no principle at all; or must be better than openly to advocate and act upon those which are decidedly wrong.

However this may be, there is no doubt of the fact that our churches and old buildings are everywhere losing their value, through misdirected and reckless, or at least *overdone* restoration; that it is high time that some public protest be made against it, and some course adopted for its prevention; and that each of us in our own practice should institute a rigorous examination as to what he has done and is doing, with a view to a stern falling back upon true principles, that the churches yet unspoiled may yet be saved.

Here, again, I would suggest the *vigilance committee* already hinted at. It could do *much*, though the works in this case are so many, and so widely spread, that it seems impossible for *all* to be watched.

After all, then, we must look to the architects employed. If they will not labour in the right direction, I fear there is but little hope: and yet, without some stern supervision, I believe that the majority of them *will not do so;* and, further, that they will always be able to adduce such plausible and practical reasons for their destructiveness as to convince their employers that they are in the right.

I am, however, very uncertain whether we do not *all* go upon a very wrong principle in our dealings with ancient churches. I could almost wish the word "*restoration*" expunged from our architectural vocabulary, and that we could be content with the more commonplace term "*reparation*."

We have got into the way of assuming that the "restoration" of a church must, in its own nature be the signal for pulling it to pieces from top to bottom. Not only must substantial repairs be attended to, the foundations underpinned, the strength of the walls looked to, decayed timbers spliced or new ones here and there inserted, the most decayed stones carefully cut out and replaced, the covering made reliable, and the fittings put in seemly order, following and retaining every remnant of what is ancient, the stonework cleaned from its thick coatings of whitewash, and the roofs divested of the concealment of modern ceilings; —but, beyond all this, *everything must be meddled with;* the seating all taken up, floors removed, plastering stripped from the walls; the whole church left for some months at the mercy of the elements by the removal of its roofs; windows which do not please the clergyman or the squire replaced with more pretentious ones,—indeed, the whole thing overhauled, and *radically re-formed* from top to toe.

We all of us, however conservative our views adopt something approaching to this as the normal and necessary view of a restoration; and the chief difference between us is, that, if the architect be at heart earnestly conservative, the church comes out from the ordeal with a certain amount of its ancient self remaining, but with very much of a new garb, or very much of its ancient look, and very many of its interesting ancient features gone; but if his feelings are not conservative, so much the more is there of novelty instilled, and so much the less of antiquity retained in the restored church.

Now, this is really beginning to tell in a *fearful* manner upon the value of our ancient churches, and the interest with which one visits them. One *perfectly longs* after an *untouched* church, though one knows that the state of them is by no means such as a man of good feeling can look at without shame.

Still in them are found our old churches, as they have been *traditionally* handed down to us. True it is, that the exterior is in part mutilated and even disgraced by barbaric alterations; yet one feels that the old work which remains is genuine and untampered with. True, the interior is coated with whitewash, thickened out indefinitely by the repetitions of centuries; but beneath it, we know that the old stonework is as the very workman left it; and, that if carefully scaled off with one's knife, we shall find the distemper decorations of perhaps two or three periods in its thickness. True the roof is decayed, patched, and perhaps hidden by a plaster ceiling; but we know that its timbers were wrought by the very men whose architecture we are studying; and that it is of the utmost value as an original specimen of their work. The floor, it is true, is sunken, worn, and patched with brick; but it contains the half-effaced memorials of those who lived while the church was new, and when parts of it were being built; and in certain corners remain the ancient encaustic tiles. The windows, again, are filled with patched and irregular glazing; but in the heads of the lights are remnants of the stained glass which once filled the whole. The bells are perhaps cracked; yet on them you will find the beautiful fretted border, and the pious, though it may be superstitious, legend.*

* To be continued.

THE BURIAL STATION AND MORTUARY, ON GREAT NORTHERN RAILWAY, AT ISLINGTON.

OF late we have had several opportunities of further noticing the evils which result from this plan which, although much has been said against it, is still commonly in use in connection with the arrangements in the metropolis and other large towns for the interment of the dead. Nevertheless, a marked change for the better is going forward, and we look now with curiosity at the formal costume and observances of Queen Elizabeth and Queen Anne's days.

We see in old drawings and engravings the hideous head-dresses of both men and women, worn on those occasions, and read accounts of the great and useless expense.

Even less than a century ago, in England, Scotland, and Ireland, not only amongst the nobility and gentry, but also the middle and poorer classes, the burial of the dead was often made a matter of ruinous cost, and too often a scene of riot and drunkenness. Hundreds of instances might be given of the bad results of such observances.*

The unseemly ceremonials, the useless pageantry, which were not long ago common amongst persons of high position, are rapidly being abandoned, as is the practice of keeping for a lengthened period before burial the remains of the departed. This is satisfactory, for the example will be extensively followed.

Our readers know the ill arrangement of a vast number of the dwellings which are occupied by multitudes of valuable workpeople and others. The keeping of the dead in such places is dangerous to both health and life. In addition to the number of deaths which occur in the homes of different classes of people, a number die in hospitals, in workhouses, and other public institutions: for the remains of these persons but little suitable provision has hitherto been made; and, in consequence, it is found needful in hundreds of instances to remove dead bodies to undertakers' shops and houses, situate in the midst of thickly-populated neighbourhoods,—to back stables, cellars, and other spots where children and those of tender nature are near: in such dangerous situations the decomposing bodies await a convenient, but, perhaps, distant day of interment. These and other conditions, to which we have often before referred, show the necessity for the provision of central, but at the same time rather isolated, places for the reception of a considerable number of the dead of the metropolis. We therefore willingly take an opportunity of visiting a place which seems to meet one of the present requirements of the day.

We have before referred to the railway arrangements in the Borough, in connection with the Woking Cemetery; and now go to another and more recent establishment of a somewhat similar kind, which has been opened in the York-road (Maiden-lane). Surrounding the cemetery station there are several peculiarly local characteristics. Amongst them are a mountain of ash-dust and other refuse, rows of dilapidated cottages, small and ill-conditioned gardens, with miserable remains of former flowers and trees. Masses of putrid mud form playgrounds for children; and here and there, on poles, are the blackened remains of what have been once gay flags, and weathercocks, of singular device, in front of houses, which, although needful to the present dwellers, are really not fit to exist.

The arched entrance, of tall proportions, towers above the dwarfed houses, and leads to grounds of some extent, which, ere long, will be planted with trees, &c. The building is of large size, and stands upon a siding connected with the Great Northern line. The general architectural features of the building are sufficiently good, and the application of brickwork of various colours in the details is worthy of notice. The interior arrangements are also good. In the reception front there are entrances to the offices. One doorway leads to an apartment; and in the centre of this hall is a space for the reception of coffins: then by means of a machine, worked by hydraulic power, the remains of the dead are lowered, slowly and silently, to a place below, which communicates with the Mortuary, when necessary, or with the platform of the Railway Station. In other parts of the building there are numerous and neatly-fitted rooms for the use of different bands of mourners: there is also a general reception-room. The various coffins having been placed in the railway hearse,—if it may be so called,—the mourners are ushered through a corridor, which is lighted by grey and lightly-tinted glass; and placed in carriages; and in fifteen minutes from the time of this train starting from the station it reaches that of the Cemetery at Colney Hatch. Then each coffin is placed upon a bier, which moves upon wheels, followed by the friends of the deceased to the chapel and the grave. All this ceremonial is managed in a most orderly manner. The chapel is spacious, and the station extensive; and as time goes on the general appearance will be improved by the growth of trees, &c.

It is to the Mortuary, a large apartment, and which is decorated with stained-glass windows and other architectural decorations, we now wish to direct particular attention. This place is appointed for the reception of bodies, where they can remain until the day fixed for the funeral. Unlike the arrangements which we have already mentioned, the Mortuary, being at a distance from dwellings, is not dangerous. It is lighted at night by gas-burners, which also serve to carry the air up a shaft, which is provided for the purpose of ventilation. At all times a provision of this kind is needed in large towns, but it is especially so in seasons of pestilential sickness. It is difficult to get a movement made in a new direction; and in order to remove prejudice we strongly urge, particularly the working classes, to look at the arrangements which are here provided.

* It is related on one occasion in the Highlands of Scotland, that so powerful had proved the funeral drinks, that those mourners who had, with difficulty, managed to reach the distant grave, found that the body of their deceased friend had been forgotten and left behind.

TYPHOID FEVERS AND THEIR CAUSES.

PREVENTIVE MEASURES.

THE general and anxious attention now given to the subject of sewage and all connected with it in a sanitary point of view, and especially to its admitted relationship to fevers of the typhoid class, in itself constitutes a gratifying tribute to those unceasing efforts with which the *Builder* has for many a year laboured to produce precisely such a public opinion as now prevails on this very subject. And now, too, instead of having even medical authorities endeavouring to characterize these efforts as useless or mistaken in their aim,—as when we ventured to include scarlet fever as being within the range of the pythogenic class, and ascribable to decomposing organic agencies,—we have medical men, such as the editor of the *Medical Times*, admitting that "the experience of most medical officers of health leads to the conclusion that the origin of scarlet fever is closely allied with that of typhoid; although the scarlet, when once generated, spreads rapidly by contagion; whereas the typhoid, although it may be contagious in certain bad cases, is usually not so: it is also closely allied [he adds] to the causes of diarrhœa." As quoted by us last week too, we find another medical man declaring that scarletina is usually produced by the same causes as those of typhoid fever.

And neither is it contaminated air alone which is productive of such fevers; for water similarly poisoned by decomposing animal or other organic matter is productive of the like evils; and the immense importance of pure air and pure water is becoming more and more fully appreciated by medical authorities, and by the public in general. In the case of Windsor Castle, therefore, the purity of the water used, no less than of the air breathed, requires to be closely looked to. As to the air, could not the test, so successfully applied by Dr. Angus Smith, at Manchester and elsewhere, be brought to bear upon the discovery of the hidden source of contamination which in all probability exists there? At Manchester it was found that this test indicated the finest shades of contamination; so that, as the experimenters retreated from its source, even the rate of diminution was indicated; and, when some local centre accidentally intervened, a renewed increase also indicated its intervention. It may be that the contamination of the air at Windsor Castle is not gross enough to be appreciable by the nostrils; but such a test as this could surely form a very adequate substitute in leading the inquirers to the source of contamination. That bad smells, however, *have*, ever and anon, been complained of at Windsor Castle, and in the Royal apartments too, is distinctly asserted; and if so, the discovery of the fever source ought to be all the more readily made. A contamination of the air which gives no sensible smell may be less injurious than one offensively sensible; but the difference is simply one in *time* merely, much more than anything else; so that human blood exposed say for twice the time to a contamination of the air of half the intensity, may be as effectually poisoned as if it were exposed to air twice as bad for half the time. A case occurred, we recollect, some years since, in which a sudden liberation of noxious gases from a sewer in Long-acre at once killed a man as if he had been shot. This is the one extreme; but the same quantity of the like poison, breathed in the course of weeks, will still produce a result quite as deadly, though not so startlingly sudden. Such must have been the Prince Consort's sad fate, as it is the well-known fate of thousands year after year. That the science of medicine was not in a sufficient state of advancement to save the Prince's life was but too evident; and, so long as such is the case, our chief hope of saving life from typhoid fevers must depend on preventive measures directed to outward purification. We do not mean to reflect on the eminent medical men who "treated" the lamentable case about which the whole nation is thinking, for this medical ignorance: doubtless they did their best in the present state of their science; but surely this is not a well-chosen opportunity for complimenting them, as the *Medical Times* does, on their *skill*; the *confidence* they deserved to have reposed in them; and the "*fortunate* thing" for the Prince that he was attended by such skilful physicians,—complimentary phrases which look much liker the most subtle and bitter satire. However, our business lies mainly with those who ought to be employed in obviating all such medical shortcomings by hunting out and removing the causes of these at present deadly fevers. And, in still urging the most searching investigation, we must not omit to note the vast importance of thorough and proper ventilation of sewers. At Windsor itself, the discovered cause of the fever cases of 1858 was the fact that the excellent sewerage, of which Mr. Voules so suspiciously boasts, was actually ventilated *into* people's houses. This, too, it may be remembered, was the chief cause of the fever epidemic which occurred at Croydon just after the town had been so nicely drained. Thus may good imperfectly done turn to evil. In such circumstances even the washing out of the sewers by the Thames, at Windsor, to which such prominence is given, might only the more completely force back the foul gases through the sewers and up into the houses.

Deodorizing, combined with ventilating, is another highly important desideratum. Dr. Stenhouse's method of deodorizing sewer gases at gratings, and in closets, &c., by means of charcoal filters, has been tried in the City, and found effectual, according to the authorized reports; but we have not heard much of it lately. The question now, therefore, suggests itself,—has such a method of deodorization, after fair trial, been found worthy of confidence and extension?

ROYAL INSTITUTE OF BRITISH ARCHITECTS.

THE ordinary meeting of members of the Institute was held on Monday evening last, at the House in Conduit-street.

The chair was taken by the president, Mr. Tite, M.P.

Mr. T. Hayter Lewis (hon. sec.) read a list of donations to the library, including a photographic view of proposed decorations for new Lambeth Bridge, by Mr. Robins; which, it was stated, was the last drawing which had been submitted to his late Royal Highness the Prince Consort.

A vote of thanks was passed to the donors.

The late Prince Consort.

The President observed that the ordinary meeting appointed for Monday, the 16th of December last, had been interrupted, as they were, no doubt, all aware, by an occurrence which had cast general gloom and sorrow on the entire country: he referred to the death of the Prince Consort, who had especial claims upon the respectful consideration of the Institute, having been one of its patrons. It would, no doubt, be within their recollection that her Majesty the Queen was the original patroness; and within about a year after the royal marriage Prince Albert consented to become one of the patrons; and the Institute was one of those associations in which his Royal Highness took a deep personal interest, and at which he had taken the chair. On that occasion, as upon all others when he (Mr. Tite) had had the privilege of meeting his Royal Highness as a man of business, he conducted himself with a dignity, a courtesy, and at the same time a practical attention to the matter in hand, which was one of the remarkable traits in his character; and which induced him, although a German, to enter with a keen personal interest into the manners and customs of his

adopted country. Under these circumstances, the Institute might claim to have had an acquaintance, so to speak, with his Royal Highness, of which few other associations could boast; and they could speak of him as to some extent identified with themselves. In referring to the loss which the country had sustained, he could not but feel that all forms of eulogium had been exhausted; so general and wide-spread was the appreciation of that exalted personage. He could not, therefore, say anything new on the subject. The council of the association had adjourned the meeting appointed for the Monday following his Royal Highness's death; and they had also drawn up an address of condolence to her Majesty, which he (Mr. Tite), as president, had forwarded to Sir George Grey, Home Secretary, for presentation to her Majesty.*

The President, in continuation, said that, before passing to another subject, he might, perhaps, be allowed to refer to an incident in some degree personal to himself, but to which he desired to allude, as illustrating the interest which the late Prince took in all that related to scientific and useful knowledge. Some years ago a number of gentlemen, including Sir James Clark, the late Mr. Dalrymple, the eminent surgeon, and some others (himself among the number), had their attention drawn to the value of scientific chemistry, in a practical form; and an Institute was founded, which subsequently became the College of Chemistry. In that project the Prince Consort took a lively interest; and it was through his instrumentality and especial desire, that Professor Hoffman was induced to come to England.

The International Exhibition Building.

The President observed that he was requested by the council to bring under the notice of the meeting another circumstance. They were, no doubt, aware that lately, at a meeting of the Society of Arts, a paper had been read with reference to the building for the approaching Great International Exhibition, as designed by Captain Fowke. When it became his (Mr. Tite's) duty, as president of the Institute, to address some observations to it at the opening meeting, on the 4th of November last, he stated that he would not criticise the building, but that he protested against the non-employment of an architect. It appeared, however, that, at the meeting of the Society of Arts to which he referred, an attack had been made upon the profession of the architect; and the consequence was that the council had received many letters (and he himself, perhaps, more), requesting them to take up the cudgels in defence of the profession. Now, the council did not think it became them to do anything of the kind. When a boy, he remembered to have heard it said that "calumny and detraction are sparks which, if you do not blow, will go out of themselves." He might also, perhaps, be permitted to paraphrase another maxim, from an inspired writer, wherein we were told not to answer an unwise man in his want of wisdom. He therefore agreed with the council in thinking that they were not called upon to notice the matter. The charge was that many persons had become architects without the incidents that belong to the teaching of architecture; but they were architects just as much; and, in the profession of architecture, as in other pursuits, it was quite possible for men to rise to eminence without the usual advantages supposed to accrue from early professional training and education. It could not, perhaps, be said that a man would be better without that early education; neither did it follow that, because he was deprived of it, he must *à fortiori* be disqualified. Take, for instance, the career of Telford and Rennie (the latter of whom he could just remember). It did not follow that they were any the better because in early life they had been apprenticed to humble pursuits. Neither did it follow that Dr. Lee, of Oxford, the celebrated Oriental scholar, was anything the better because he had been a cobbler; or many other distinguished men, whose names would suggest themselves in almost every walk of life, because they had sprung from small beginnings and ignoble callings. These were simply accidents and incidents, curious in their way, and did not materially affect the question. There was no advantage in having to endure difficulties and struggles which the Royal Institute of British Architects, and other kindred associations, were intended to smooth. But still an architect was an architect, whether he studied in the schools or not; and every one knew what it meant; and an engineer was an engineer, and an Oriental scholar was an Oriental scholar, in the same manner. He mentioned this in order to explain why it was that the Council declined to enter into discussions on the subject, although they had been offered papers, precedents, and suggestions in abundance. Reference had been made at the meeting to one great professor of architecture, who was not present to defend himself,—namely, the late Sir Charles Barry. He (Mr. Tite) did not know that Sir Charles was to blame for the style of the architecture of the New Houses of Parliament, which he was called upon to adopt. On the contrary, he was entitled to great credit for the manner in which he had adapted that peculiar style of architecture to modern requirements. But if Sir Charles had failed a little (although, for his own part, he did not know where his failures were), he did not think he ought to be held up as an illustration of a distinguished failure. Few men of whom he had any knowledge had, in his opinion, proved themselves a greater honour to the profession, or more worthy of the distinctions conferred upon them, than the late Sir Charles Barry. He thought it, therefore, unfair to attack a dead man, and especially one whose loss they had so recently occasion to deplore.

Modern Improvements in Paris.

The President stated that, before passing to the other business of the meeting, he wished to say a few words on a matter personal to himself. In a journal of considerable circulation, and of some political and artistic influence, he found some reference made to the observations which he considered it his duty to make, on the opening night of the session, in reference to the improvements at Paris—improvements which he confessed he did not think so highly of as others. Under the head of "*Notabilia*," in the journal in question, after quoting fairly part of what he had said, the writer went on to state the following, which he did not say, but which was printed so as to lead the reader to suppose that he (Mr. Tite) was the author of the whole:—

"Go into the courts of the new houses (where they have any), and see what they are like: count the windows which take their air and light from them: in some of the worst cases, you will find eighty windows looking into a wall 20 feet square and 70 feet deep. A more striking example still is furnished by the view from the tower of St. Jacques la Boucherie. At your feet run the Rue de Rivoli east and west, and the Boulevard de Sebastopol north and south, each some two miles long, and straight on end, excepting where the latter twists across the Place du Chatelet and the Seine. Directly you look over the parapet you are struck by the extraordinary compression of the houses which form these two great streets. Almost everywhere else there is a certain little space remaining between the backs of the houses, but behind the splendid buildings which border these gigantic alleys there is no space at all. The houses are packed back to back: they seem all roof. There is only one comparison possible of the scene before you. You fancy at once that an immense plough has driven a furrow down each of the streets, turning up the houses tight against each other right and left, just like clods in an autumn field. Many of them are simple veneers, one room thick. The average surface of court-yard in the two streets is certainly not one-tenth of the whole area. How could it be otherwise? The land is worth 40*l.* a yard. The air has been taken out of the courts and put into the street: the front rooms have more of it than they had before, but the back ones, which are by far the most numerous, have none at all. Now, as the great majority of the 12,000 houses, and not a small proportion of the enlarged old ones, are more or less constructed on this plan, can it be denied that their inhabitants pay something more than a simple money price for the changes effected? Is the privation of air and light to be counted for nothing? The Parisians are not toads or tortoises, and cannot live without breathing or seeing. Those unhealthy houses have often been attacked, but with no result: their dangers were publicly but vainly vindicated in 1857 by the lectures of the Professor of Civil Construction at the Conservatoire des Arts et Métiers, but they go on growing at the rate of thousands a year. Add the certain consequences of this system of lodging to the 319,000,000*l.*, and you have the total price of the improvements of Paris."

These comments, coupled with his observations on Paris improvements, were, in his mind, so true and so witty, that he did not think he ought to take credit for them, although they presented a singular coincidence of opinion between himself and the writer, whoever he might be.

Mr. George Gilbert Scott, R.A., then read a paper "On the Conservation of Ancient Architectural Monuments and Remains" (this will be found in another place).

At the conclusion,

The President said that, under ordinary circumstances, it would be his duty to invite discussion on the very interesting and useful paper which they had just heard read; but, as the hour was so late (nearly ten o'clock), he thought perhaps it would be more desirable to postpone the discussion to a future evening. He was, however, quite in the hands of the meeting, and was prepared to remain in the chair if the meeting should be of opinion that it could do justice to the subject at that moment. He would, however, venture to make one or two remarks in reference to the paper. Mr. Scott had called attention to Mr. Ruskin's opinions as to the preservation of our monuments, but Mr. Ruskin had done more than express an opinion. Some years ago he addressed the Antiquarian Society on the subject; and, at the same time, forwarded a very considerable donation to its funds. The Antiquarian Society took the matter up, and issued a circular inviting the co-operation of local societies in reference to the objects which the Council desired to preserve. He was sorry, however, to say that the Society met with little—indeed, he might say no encouragement; and that, after its best endeavours had been exhausted to promote co-operation, the matter died a natural death. He regretted the event as much as any one, and he did his best to prevent it; and that being so, he feared that Mr. Scott would not succeed in a more extended attempt; but he would be very happy to give him any aid in his power, as he felt the great importance of establishing some such dominant body as that which he had suggested for the care and guardianship of our ancient monuments. It was impossible to move anywhere through the country without being struck with the truth of what Mr. Scott had said with reference to the condition of many of our ancient buildings. No one seemed to care for them; and the result was that they were daily falling into decay, and disappearing from the scene. He could scarcely refer to a more interesting case in point than the marvellous old abbey of Whitby, in Yorkshire. The tower of the church had lately fallen; but he was assured that the expenditure of a very few pounds would have prevented that catastrophe. A few years would also witness the destruction of all that remained of the abbey, unless some attempt were made to sustain it. The exposed situation of the ruins and the decomposing substance of which they were formed would, no doubt, preclude the possibility of saving many of its interesting architectural features; but he referred to the subject merely to show that a very moderate expenditure, if timely applied, would suffice to arrest much of the decay which now threatened the whole pile with destruction. With regard to the vexed question of the nature of "restorations," as raised by Mr. Scott, it was, he thought, a difficult matter to define what were the exact limits to be observed. The canons on the subject laid down by Mr. Scott were of great value; and he hoped that he would print them, and give the profession the benefit of his great and varied experience in the restoration of our ancient churches. With regard to the restorations going on in France, there was no doubt that the French architects possessed marvellous facilities; but there was a recklessness about them which he was happy to say was not to be found in England; and which, perhaps, was to be accounted for by the abundant means placed by the Government at the disposal of those intrusted with the works. There was a gentleman present that evening who perhaps would make some observations as to the system pursued in France; and he should, therefore, call on Mr. Burnell to address them.

Mr. Godwin said that, before Mr. Burnell rose, in compliance with the suggestion of the chairman, he would venture to ask whether the moment had not arrived when the Government might be prepared, at any rate, to appoint a commission for the general examination of, or the obtaining of reports on, the various ancient buildings remaining in the kingdom, in order to ascertain what buildings had guardians, what were left to destruction by time and the elements, and what had been delineated and what had not. As long ago as the time of Joseph Hume, the great Parliamentary economist, exertions were made to induce the Government to establish some depart-

* "*The dutiful Address of the Council of the Royal Institute of British Architects to her Most Gracious Majesty the Queen.*

May it please your Majesty.

The President and Council of the Royal Institute of British Architects, on behalf of themselves and of the other members of their body, desire respectfully to approach your Majesty with the expression of their deep-felt sorrow and sympathy on the recent death of H.R.H. the Prince Consort;—an irreparable loss to your Majesty, to the Royal Family, and to the whole British Empire.

The noble and amiable character of the Prince, as a husband and a father, had won the respect and gratitude of your Majesty's loving subjects. His high intellectual attainments, and promotion of the fine arts, his patronage of science, and his enlightened support of every useful and benevolent work, will render his memory enduring as one of the great benefactors of the nation; and this Institute cannot but lament, in their late patron, a Prince whose loss they feel it impossible to supply.

This Council earnestly pray that your Majesty and the Royal Family may derive every support, under this heavy dispensation of the Almighty, from the consolations of our holy religion, and from the contemplation of the virtues of a Prince so eminently estimable in all the various relations of public and private life."

Signed by the President and Council.

mental authority on the subject, similar to that existing in France; and Mr. Hume, a man of great practical knowledge, whose life was devoted to economy and retrenchment, urged the necessity of such an appointment. Mr. Hume, economist though he was, saw at once that those edifices were money to a nation, that such evidences of history were more valuable than money, and that money could not be better expended than in their maintenance and preservation. It appeared strange, when one called to mind the number of architectural and archæological societies scattered throughout the country, that the desirability of doing something should be discussed so often without any practical result, and that the deplorable work of destruction should go on, day after day. He was of opinion, although many successive Governments had infamously neglected the arts, that, if proper representations were made to the present Government (who had not shown themselves altogether indifferent to the subject), some good might be done towards arresting the decay of many of our most valuable and time-honoured buildings.

Professor Donaldson observed that, in his opinion too, it would be more advisable for the Institute to consider the practical suggestions thrown out by Mr. Scott than to discuss the paper generally. He thought it would be well to approach the First Commissioner of Works, and to ask the Government to have a return made of all the ancient monuments which are under its care. The suggestion of Mr. Godwin was, in his opinion, a very valuable one; for many of the most interesting Mediæval buildings in the country were falling to decay for want of a little timely attention.

Mr. Burnell said that Mr. Scott's paper referred to so much that it was incumbent upon them to inquire into, that, if it met the view of the meeting, he would prefer reserving what he had to say until a future occasion. There were a great many points and practical matters of detail which required to be carefully considered; and they could not conscientiously and practically treat them immediately after hearing the paper read.

The President quite agreed in this; and observed that, as the paper would be printed in the journals which usually noticed their proceedings, an opportunity would be afforded for considering the subject, and discussing it with greater advantage, on a future occasion. He thought, however, they were bound to express to Mr. Scott the sense of their obligation for the time and attention which he had devoted to the subject.

Mr. Digby Wyatt, in proposing a vote of thanks to Mr. Scott, said they must all feel grateful to him for having called attention to a matter of so much historical and national interest. He (Mr. Wyatt) thought they might extend the scope of the discussion on a future evening. They were bound to consider the monuments of art as the appanages of artists; and that, however distant they might be, they were one common property; so that, whether the monuments were in Italy, in France, or in England, they felt a common interest in their preservation.

Professor Donaldson seconded the motion; which was put from the chair, and carried unanimously.

Mr. Scott, in returning thanks, expressed his hope that the subject would not be allowed to drop, but that it would lead to some practical result.

The President then announced that there would be a special meeting of members only on Monday next (the 13th instant), to receive a report from the council on the subject of professional practice and charges; and that on Monday week (the 20th instant), a paper would be read by Mr. H. Roberts, on the essentials of a healthy dwelling, and the extension of its benefits to the population generally, and especially the working classes.

Mr. John Young, jun., of 35, King-street, Cheapside, was, on ballot, elected a Fellow of the Institute.

The following gentlemen were also elected Associates:—Mr. Charles Robert Baker King, of 24, University-street; Mr. Benjamin Tabberer, of 20, Bedford-place, Kensington; Mr. Henry Wood, of 12, Richmond-terrace, Clapham.

THE DRAINAGE OF BRIGHTON.—It appears that two matters bearing upon the general question of the drainage of the town have engaged the attention of the Works Committee. One was as to the main drainage outfall, the consideration of which was adjourned. If they do not soon take up the general question in real earnest, they will risk such a blow at the prosperity of the town as it may not soon recover from.

THE ARCHITECTURAL ASSOCIATION.

THE ordinary meeting of members was held on Friday (the 3rd instant), at the House in Conduit-street.

The chair was occupied by Mr. Paraire.

The following gentlemen were, on ballot, elected members of the Association:—Mr. G. T. Molecey, 20, Hugh-street, Pimlico; Mr. E. Turner, 33, Bermondsey-square; Mr. F. Brooks, 9, Grafton-place, Euston-square; Mr. E. Lyman, 25, Keppel-street; and Mr. A. G. Little, 34, Eagle-street, Red Lion-square.

The Hon. Secretary announced the receipt of a communication from the Art Design Committee of the Great International Exhibition of 1862, explaining the regulations under which drawings, designs, models, and other works of art were to be submitted to their inspection at the South Kensington Museum; and which, if approved, are to be delivered at the Exhibition Building before the 31st of March next. He also stated that he had received permission for the Association to make a visit of inspection of the works of the Underground Railway, which present many features of interest to the architect and engineer.

It was arranged that a day should be fixed at the next meeting, on which the visit should be made.

The consideration of the paper of Mr. Blashill (read on the last evening), entitled "A Few Days at Chartres and other French Towns," was then resumed. In the discussion which ensued, the Chairman, Mr. Spiers, Mr. C. H. F. Lewes, Mr. New, and other gentlemen took part; and at the conclusion a vote of thanks was passed to Mr. Blashill.

The modelling class is now organized, and meetings are held every Friday evening, which are attended in sufficient numbers to prove the interest taken by the members in this useful art.

THE DESIRED ROAD FROM BAYSWATER TO BROMPTON.

THE adoption of this much-needed route being now almost a matter of certitude, one who *first* sketched out the project in the *Builder*, some eleven years back, may be excused for making a few observations on the discussions (parochial and otherwise) which have been published.

The Chief Commissioner seems to coincide with the urgency of the occasion for such a line of intercommunication between two mighty limbs of the metropolis; and even exhibits an ardour in his advocacy of the measure. But so many and conflicting are the plans and views; so heavy the expense of some of them; and so necessarily tedious of execution; on account of the subaqueous and centripetal tunnelling; that he may well stand aghast, on being solicited to support or even sanction them.

A sunken road, if commenced directly opposite, and in a line with Westbourne-terrace, might begin from the Bayswater-road, by an archway; and, passing under a wooded mound for fifty yards, enter at once into the fosse, which takes a very slight deviation from the straight line to the Serpentine bridge: this sunken road might be continued (avoiding the powder magazine), say at a depth varying from 15 to 20 feet, to within a few paces of the Serpentine margin, eastwards of the bridge; to traverse the water on a light although strong and simply constructed iron causeway, at an elevation of, say 3 or 4 feet over the surface; then again, being continued at a trifling descent, into a cutting, in a straight line towards the Exhibition-road.

As there is a considerable rise in the ground on the south side, the whole road might be tunnelled across this plateau; so as to underlay Rotten-row, and to emerge within about 100 yards of the issue at or near Prince's-gate.

The other plan would be, from the Bayswater-road, to strike in just below the new main arterial sewer, and the fantastic "*esplanade des eaux*," in a right line, straight across the great triangular mead, to the west side of the Serpentine bridge; there to cross by a light iron-framed viaduct, as recommended on the west side; to re-enter the sunken way, continued within the gardens, on the south side; and to emerge in the strip of Park land, south of the gardens, at the point before indicated, near the Exhibition-road. The low iron framework across the Serpentine need not at all interfere with the appearance of the present bridge.

As to forming a close tunnel through the gardens, it is not necessary either for sake of their seclusion, or of the sylvan character of the scene Open cuttings, railed along, might be permitted, to give air and light to the traversers. These little openings might be planted round with trees, or belted with evergreens and flowers, and they need not severally exceed 25 feet long by 20 feet wide, at distances of 50 or 100 feet apart. These would offer no impediment to *free park*, nor to the innocent gambols of nursemaids and children; and at same time the subway might receive a sufficient amount of light and air, so as not to be repulsive.

To accomplish a great public immunity, there must be some concession, perhaps some sacrifice. In this case, however, the improvement and aisance sought, must benefit 1,000 for every one who might take offence at the change. There are now 200,000 persons on either side of the park and gardens, making nearly half a million souls to derive benefit and accommodation, involving economy both in time and money. Against that there are not one hundred exclusives who could possibly benefit, even in imagination, by withholding the privilege. QUONDAM.

WAREHOUSES FOR EXPLOSIVE MATERIALS.

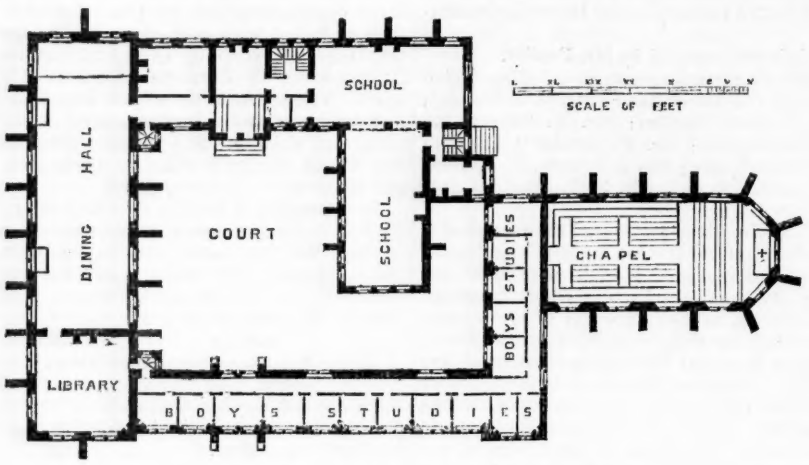
AT the last half-yearly meeting of the London Dock Company, it was announced that the directors had deemed it prudent to recommend that 10,000*l.* be appropriated to the new works' account, and that the directors were paying attention to fire insurance, and had classified the goods according to the degree of risk their nature placed them in. Saltpetre and nitre, being very dangerous, had been removed to a remote part of the docks, where new warehouses had been erected for receiving them. The directors were in hopes that the fire insurance companies would modify their charges, and reduce their rates on premiums; but, in the event of their not doing so soon, the directors would propose to the shareholders to take a part of the risk upon themselves.

In the course of the proceedings, the chairman remarked that the management and insurance were 6,400*l.*, against 5,300*l.* last half-year, "but that was in consequence of *the increase of premium*; but he hoped that that would be reduced. The insurance companies had made such requirements that the directors did not feel they could comply with them. They required the dock company to curtail their space to such an extent that they could not possibly comply with their demands; and, besides, the expense would be so great that it would never be worth while to go to it."

Many times, when great fires have directed the attention of the public to the matter, we have urged the systematic arrangement of the different descriptions of goods in dock-yard and other warehouses; and feel convinced that, although additional cost may be incurred in buildings, and in some other ways, the saving in the amount of insurance and destruction of property will eventually be immense; and therefore recommend the example of the London Dock Company to the consideration of similar companies.

SPITALFIELDS MARKET.

A CORRESPONDENT says,—Why does not someone get up a company for the rebuilding of Spitalfields fruit and vegetable market, as it is not half large enough for the wants of the increasing business done there? Having visited the market on several occasions, I found it so choked up with goods, and everywhere so crowded with vegetables and human beings, that it was almost an impossibility to get through it. The market is a very small one; being, in fact, only a wooden shed. There are some dilapidated houses surrounding it; which, if pulled down, would make an excellent site (and they could, doubtless, be purchased for a little money) for building a commodious market, which this vast and somewhat improving neighbourhood much requires. This is the only market of its class in the east end of London, and has in a great measure to supply the thickly-populated parishes of Shoreditch, Bethnal-green, Kingsland, Whitechapel, &c., with vegetables, of which a great quantity comes by the Eastern Counties railway, and by carts from all parts of Essex. I think it would be a good speculation to rebuild the market. It is said the new Commercial street will now soon be built upon, thus giving an opportunity to secure more land, if necessary, before the erection of houses.



ST. MARY'S COLLEGE, HARLOW.—*Plan.*

ST. MARY'S COLLEGE, HARLOW.

THE College of St. Mary, at Harlow, is an institution founded about ten years since by the present president, the Rev. C. J. Goulden, for affording education in the principles of the English Church, and which has already far outgone its original beginnings. It is similar in its features to those colleges at Hurst-Pierpoint, Shoreham, Bloxham, Radley, &c., which are one and all aiming at the same grand object,—viz., the education of the middle classes, for which so little had hitherto been done.

The foundation stone of the new buildings was laid on the 2nd July last; and the north and east wings are already completed, and will be occupied forthwith. They are designed to accommodate fifty boys. The west wing, cloisters, and chapel, are works to be carried out from time to time, as funds permit. The walls are built of common stock bricks from a local brick-field, with bands and arches of red bricks interspersed, with arched and cusped stone tympanums to windows, and various stone dressings. The roofs are covered with slates, and finished with red tile ridge and crest; whilst various iron terminals are placed upon the dormer windows and all gables. The interior fittings are very plain. The dormitories are divided into cubicals about 9 feet by 5 feet, so that each youth has a separate bed-room. The principals of roofs and beams of floors are all exposed to view, and all interior woodwork is stained and varnished. All the windows are fitted with ordinary sashes and frames, except the school-rooms, which have solid frames and casements.

The portion just completed has cost about 3,500*l.* Mr. Perry, of Stratford, was the builder; and Mr. A. Babington and Mr. G. Enticknap, clerks of the works. Mr. Withers, of London, was the architect employed.

The building is well situate, on the borders of Hertfordshire.

A NEW HOME FOR THE GARRICK CLUB.

THE committee of the Garrick Club, under a resolution of a general meeting, have entered into a conditional agreement for a piece of ground on the south-west side of the new street from King-street to Long-acre. The committee have treated for this with the Board of Works. A new club-house is to be built according to plans furnished by Mr. Marrable, which have been approved.

The money for the purpose is now being raised by debentures, to be subscribed by the members.

MEMORIAL OF THE PRINCE CONSORT AND THE GREAT EXHIBITION OF 1851.

WE printed last week the very interesting and admirable letter of H.R.H. the Prince of Wales on this subject; the more interesting as being the first public letter written by the Prince. The following correspondence in connection with it speaks for itself:—

"To his Royal Highness the Prince of Wales, &c. &c.

Sir,—The Committee for the Erection of the Memorial of the Great Exhibition of 1851, for which the Horticultural Society have granted a site in their gardens, have received through General Grey, by command of your Royal Highness, a duplicate of your letter addressed to the Council of the Horticultural Society. In this letter your Royal Highness recalls to recollection, by command of the Queen, that her Majesty had been pleased to assent to a proposal to place a statue of herself upon the memorial;—that the characteristic self-denial and modesty of your Royal Highness's deeply lamented and beloved father (whose loss the whole nation now mourns), had induced him to interpose to prevent his own statue from filling that position on the memorial which properly belonged to it;—that her Majesty had directed your Royal Highness to say, it would now, however, be most hurtful to her feelings were any other statue to surmount this memorial than that of the great, good Prince, your Royal Highness's beloved father, to whose honour it is in reality to be raised;—further, that your Royal Highness had sought, and had obtained, the permission of the Queen to present the statue thus proposed to be placed on the memorial.

The memorial committee having considered this communication, request me to state, with most respectful and heartfelt expressions of the deepest sympathy, and of just admiration of the sentiment that suggested it, their entire readiness to meet these wishes; not only as enabling the subscribers to the memorial to carry out their original desire, which was emphatically and above all things to offer a public and lasting tribute to his Royal Highness the lamented Prince Consort in connexion with the Great Exhibition; but as rendering that memorial also the first of the many records of public homage which will be offered throughout the length and breadth of the kingdom, to the memory of a Prince whose loss is deplored by every subject of the realm as a private as well as a national calamity. This grief is felt peculiarly by the committee I have the honour to represent; they having received from the Prince for a long time the kindest consideration, and personal assistance of inestimable value in the preparation of the design.

They recall with melancholy satisfaction the circumstance that the last public act in London of the lamented Prince, your Royal Highness's father, was the approval of the statue of her Most Gracious Majesty, by Mr. Durham, then intended to surmount the memorial.

The appropriation of this statue, which is now being produced in bronze, the memorial committee most respectfully place in the hands of your Royal Highness.

With reiterated expressions of the deepest sympathy on the part of the committee, and their prayer for the health of the Queen; I beg leave, sir, most respectfully, to subscribe myself, your Royal Highness's humble servant.

GEORGE GODWIN, Honorary Secretary.

Brompton, Jan. 4.

"Osborne, 7th January, 1862.

SIR,—I have received the commands of his Royal Highness the Prince of Wales to assure you that he very highly appreciates the confidence reposed in him by the members of the Memorial Committee when they place the statue of her Majesty the Queen, executed by Mr. Durham, at his disposal.

It will be his Royal Highness's earnest desire to find a proper site, in the neighbourhood of the Memorial to the Great Exhibition of 1851, for the erection of this statue.

His Royal Highness, however, feels that, at his age, he is but little competent to decide upon a question of this character, which seems to him to be one of great importance.

His Royal Highness will anxiously seek the best advice and the most valuable opinions upon the subject; and I shall then have the honour of again addressing you by his Royal Highness's direction.

I have the honour to be, Sir,
Your most obedient Servant,
R. BRUCE, Major-General.

George Godwin, Esq.
&c. &c."

THROUGHOUT the land, as we remarked last week, a strong desire is manifested to do honour to the memory of the Prince Consort. In most of the chief towns there is a wish amongst people of all classes to subscribe towards the erection of local monuments to the illustrious gentleman who has been so suddenly taken from us; and amongst artists there is also a great desire to exert themselves to the utmost to produce suitable works in honour of one to whom the fine arts and manufacturing arts in this country have been so much indebted; for, when we remember the refined taste of the late Prince, and his constant desire and anxious labours to promote the improvement of various classes of the people, it would be a matter for much regret if in any case the artistic designs and the execution of them should be unsuitable for the intended purpose.

In order to produce a worthy work of art, considerable cost must be incurred; and, although local subscriptions will be plentiful, it is to be feared that the desire to erect a large number of statues, or such like monuments, may lead to the frittering away of means which might be, with better effect, concentrated. It may, therefore, be worthy of consideration if it would not be desirable to accumulate the funds which will be provided for this purpose in each county; and, instead of providing several memorials, which, separately, would be neither important nor imposing; provide, on suitable sites, county monuments, which would be worthy of the object and creditable to the present condition of art.

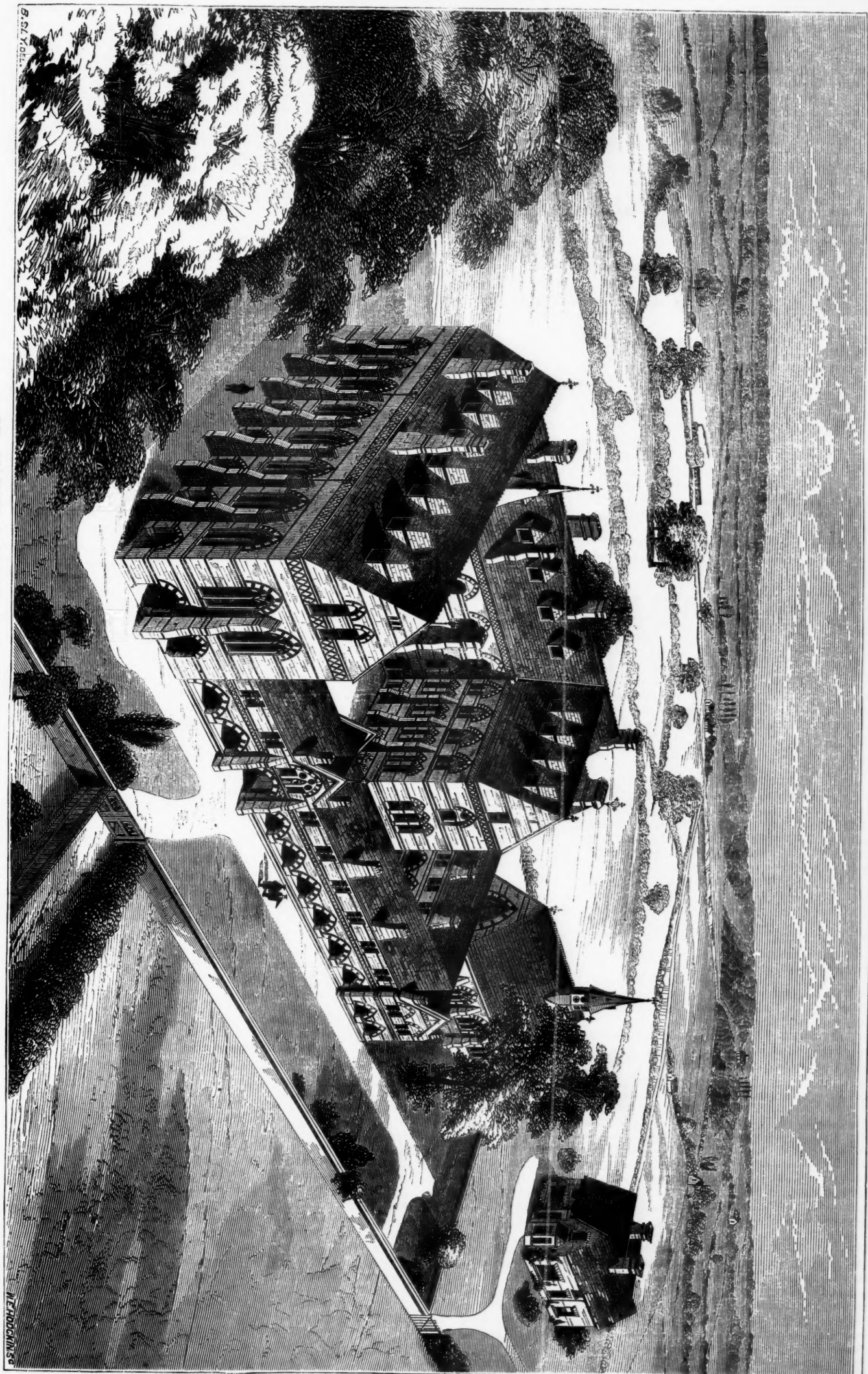
There is a strong desire to erect public monuments in London, Edinburgh, and Dublin, the three capital cities of the empire. It is also suggested that a monument should be voted by Parliament, which would be expressive of the general feeling. In the anxiety to excel in this instance, there is fear of failure; which is increased when we glance at the fashion of many of the memorials which have been erected in the metropolis and elsewhere during the last century. The bare-headed statues of eminent men in the streets and squares, exposed to all kinds of weather, to the rays of the burning sun, and the pelting storm, have not an agreeable effect; and, when we consider the large sums which have been expended on many of these works, and notice the ill effect of the majority of them, we cannot fail to wish for monuments which would be more tasteful and satisfactory.

It is to be hoped that, wherever anything statuesque shall be proposed, consideration will be given to its architectural and other surroundings; and that such works will really be works of fine art, the best of their kind, and not of the class of mere portrait statues which have been so generally stuck up without either taste or discrimination in our cities and towns. There are various other kinds of memorials proposed besides statues, however; such as an Albert's Industrial University, Albert Scholarships, Prince's Parks, Albert Model Cottages, Cathedral and other towers, pillars, &c.

The Albert Industrial University is a proposal of Mr. Cole's, addressed, by permission, in the form of a letter, to Lord Granville, the President of the Privy Council. Such a university, as Mr. Cole remarks, was one of the most cherished of his Royal Highness's own projects, and was indicated in the charter granted to the Royal Commissioners of the 1851 Exhibition. A university of this order would differ from the London University in not requiring examination for matriculation, but perhaps accepting examination conducted by other authorities. The degrees and honours would be granted for specific success in subjects technically applied. A miner from Durham or Cornwall might acquire his degree in mining only: a chemist from Manchester, Bristol, Newcastle-on-Tyne, or the Staffordshire Potteries, might take honours in chemistry only. The endowment should be partly from public subscriptions and partly from Parliamentary funds. The site of the proposed university should be at South Kensington.

At Manchester a large meeting of gentlemen in the Town-hall have unanimously resolved to "erect a fitting and enduring monument to the memory of the late lamented Prince Consort." The mayor, who was in the chair, expressed a hope that they would erect a statue, of marble or bronze; and stated that he would subscribe 500*l.* towards a statue, or 100*l.* towards some other memorial. Scholarships, a Prince's Park, and towers to Manchester Cathedral, were also mooted; but the first thing to do is to obtain a large subscription. Various 50*l.* subscriptions have already been added to the mayor's.

At Aberdeen a movement has been commenced towards the erection of a monument to commemorate the public and private virtues of the Prince. A conference has taken place, and it has been resolved to invite the city and county to subscribe towards the object in view.



ST. MARY'S COLLEGE, HARLOW.—MR. R. J. WITHERS, ARCHITECT.

THE PROPOSED NEW LECTURE-ROOMS, MUSEUM, &c., AT CAMBRIDGE.

A SUM of 27,000*l.* being now available for the erection of the proposed buildings, with a future increase to 30,000*l.* in prospect, Mr. Salvin's plans of 1854 were again taken into consideration by the Syndicate, who now report to the Senate on the subject. Mr. Salvin, they state, has prepared, according to instructions, an entirely new set of plans, with estimate amounting to 26,475*l.* 11s., exclusive of architect's commission; and these plans they now submit to the Senate for their approval. The plans will be exhibited to the Senate in the Council Chamber of the Fitzwilliam Museum. The principal part of the works, the Syndicate report, may be immediately commenced; but, as it may not be found advisable at once to complete the whole, they recommend that tenders be obtained, both for the whole works, and also separately for the central group of buildings, the two large lecture-rooms in Free School-lane, and for the additional building for the chemical department. The Syndicate accompany their report with a detailed account of Mr. Salvin's plans by Professor Willis; from which it appears that the proposed buildings are arranged about a quadrangular court, 138 feet from north to south, and 114 feet from east to west, and occupy about 3-5ths of the old Botanic Garden. The only portions in which architectural symmetry and decoration are employed are the south front facing Pembroke-street, and the west front in Free School-lane, which are in a simple Italian style, capable of being carried out in brick, with stone dressings. The remainder will be in plain brick.

STATUE OF WEDGWOOD.

ON Wednesday afternoon a number of persons, including ladies, assembled at Mr. Rogers's foundry, Great Guildford-street, Southwark, for the purpose of witnessing the casting of the statue proposed to be erected at Stoke-upon-Trent to the memory of Wedgwood, the famous potter. The statue is composed of bronze. It is 8 feet in height, and represents the original in the costume of the last century, holding in his hands the Portland vase. The features have been moulded from the well-known portrait by Sir Joshua Reynolds. It is cast to stand without any adventitious support. The weight of the metal in the furnace was about one ton, and the casting was stated to be quite successful. The artist is Mr. Edward Davis. The statue, when completed, is to be placed on a plinth 8 feet high, to be erected in the Station-square, at Stoke-upon-Trent. The cost of the whole will be about 1,500*l.*, which has been raised chiefly by local subscription.

CHURCH-BUILDING NEWS.

Stratford.—The iron church in the district of St. Paul's, Stratford New Town, being inadequate to provide the necessary church accommodation, a committee has been formed and subscriptions obtained for the erection of a church sufficiently commodious to meet the spiritual wants of the district. The population appears to be 6,188; and it is proposed to erect a building capable of holding 1,100 persons, at a cost of 5,500*l.*, a portion of which amount has been already subscribed.

Bramcote (*Notts.*).—The new church here has been consecrated by the Bishop of Lincoln. It is built in the Decorated Gothic style, and consists of a nave, aisle, chancel, and vestry, and has a tower and spire about 130 feet high, open to the church inside and porch on the south side. The stone used is Chevin for the window tracings and principal dressings; Stanton stone for inside ashlar columns, &c.; with Caen stone for pulpit, font, and inside carvings. The roof is open-timbered. The whole of the works have been executed by Messrs. Firn & Clifton, of Leicester. The design of the church is by Mr. Johnson, of the Adelphi.

Athelhampton.—The small church which has been erected for the parish of Athelhampton-cum-Burleston, has been consecrated by the Bishop of Salisbury. The two parishes, according to the *Dorset Chronicle*, formerly possessed two very dilapidated structures, which are now supplanted by the new church, after designs supplied by Mr. J. Hicks, of Dorchester. It is situate on the side of the road leading from Dorchester to Wareham; and consists of a nave, chancel, small vestry, and porch, on the north side, in the Early English style of architecture. The edifice is surrounded by a churchyard about a quarter of an acre in extent. The walls of the church are run up in random work of Poxwell stone, with Bath stone dressings; and the west gable is surmounted with a bell-turret with two trefoil openings, in each of which there is a small bell, and above them there is a quatrefoil opening. The interior of the walls is faced with Bath stone ashlars. The trefoil chancel arch springs from small shafts, supported by carved brackets, which, together with the caps and spandrils, are carved in natural foliage. The roof of the nave is open timbered, and supported by arch ribs, which spring from carved stone corbels, but the chancel is hammer-beam. There are low seats with carved ends, giving accommodation for about 120. The vestry is separated from the chancel by a traceried wood screen; and the chancel is paved with red, black, and buff tiles from the Poole potteries; but the altar space is laid with Godwin's tiles, in flowered patterns. Mr. W. Hammett, of Tolpuddle, builder, has carried out the work; and the carving was by Mr. H. Burge, of London.

Pewsey.—The chancel of the parish church, which, during the last seven months, has been undergoing a restoration, has been re-opened for divine service. The chancel is long and narrow, of the First Pointed style, with an inserted east window of the Middle period, having tracery of a kind which seems almost peculiar to this part of Wiltshire. The south wall and the western portion of the north have been entirely rebuilt; and an aisle, corresponding with the old wall, has been added on the south side, for the organ and school. The old windows and doors have all been re-set; the four lancets being filled with stained glass (by Hardman); which, as well as the east window of three lights, are the gift of Miss H. Pleydell Bouverie, daughter of the late rector, in memory of her father and other members of the family. The new aisle opens into the chancel by two well-proportioned arches, supported on a cylindrical pier, and having oak parcloses in front. The chancel is fitted with stalls and subsellæ of oak for the clergy and choir, and the floor is laid with Maw's tiles. The new roof is slated externally with blue, purple, and green slates, and has an ornamental ridge of red tile. The architect was Mr. G. E. Street; and the builder, Mr. J. Mitchel, of Pewsey.

The Lye.—The new Unitarian chapel here has been inaugurated. The design is by Mr. Smalman Smith, of Stourbridge; and the chapel was built by Mr. Bloomer, of the Lye. The style is a combination of the Early English forms; and the materials are the blue, white, and red bricks of the neighbourhood. At the east end there is a stained glass window, with a cartoon of the Crucifixion, executed by Messrs. Eaton & Butler, of London, from designs by the architect. The interior is fitted up with deal, stained, and in the simple forms of the period. The aisles are laid with Maw's tesselated pavement; and the whole building is heated by a warm water apparatus of simple construction. The roof is open, and on the rafters texts from Scripture are carved. One of the corbels supporting the timbers of the roof is carved with the emblematic figure of ivy leaves clinging to a death's head; and it is intended to carve the others, as well as to stain all the windows. The chapel is seated for 200. On the right side of the pulpit a monument by Mr. Pardoe, of Stourbridge, has been erected to the memory of the Rev. James Scott, the founder of the old chapel, which adjoins the present, and is being fitted up as a school. A clock tower adds to the effect of the building externally.

Southam.—The restoration of Southam Church has been celebrated by Divine service. The church was originally partially restored several years ago, at a considerable cost, but has recently been completed at a cost of 700*l.*; nearly 600*l.* of which have been raised by voluntary contributions. The church is ornamented by six memorial windows of stained glass, by Messrs. Wales, of Chester, with the exception of one in the south aisle, which was erected by Mr. Holland, of Warwick. Mr. Watson, of Napton, prepared the plans; and Messrs. Reynolds, of Southam, were the builders.

Birmingham.—The church of the Messiah, which, during the last eighteen months, has been in course of erection in Broad-street, was formally opened on New Year's Day. The new church has been built by and for the Unitarians. The new edifice stands at the corner of Broad-street and St. Peter's-place. It is therefore built over the Birmingham and Worcester Canal, and is supported on arches resting on the sandstone rock on either side the water. It possesses a frontage in Broad-street of 66 feet, and in St. Peter's-place of 166 feet, exclusive of large schools at the rear; and at the corner of Broad-street and St. Peter's-place a spired tower rises to the height of 150 feet. The style is Geometrical, and the material employed throughout is stone. At the entrance porch, says the local *Journal*, eight red granite columns, with grey granite bases and carved capitals, composed of foliage and flowers, executed by Mr. John Thomas, of London, support three intervening cusped arches of Bath stone, and form three open doorways, leading into a vestibule. A four-light window, with geometrical tracery, and gable above, surmounts the porch; and the main gable of the church recedes some 15 feet. On one side of the porch is a lobby entrance, and on the other side is the tower, which rises from the midst of crocketed canopies overshadowing figures of the four Evangelists (also by Thomas), and is ornamented with quatrefoil bands at intervals to the top. The St. Peter's-place elevation presents five irregular gables, with projecting buttresses, and five large windows, with geometrical tracery heads of different designs. At the end of the church is an octagonal turret about 80 feet high. The roof is covered with green and blue slates in courses, topped with ornamental iron ridges, corresponding in design with the other decorations of the building. Interiorly, on one side is a transept, opened to the church by three arches resting on clustered columns, and intended for the organ and children's gallery, the latter communicating with the schools. The roof is formed with open timbers of hammer-beam construction, the spandrils filled in with tracery and dog-tooth moulding on the soffits, and the ends of the windows are gabled and valleyed into the main roof. A moulded arch admits light from the window of the porch, and the church is also lighted from fourteen other windows, twelve of which are glazed with cathedral dyed white glass, and the remaining two with stained glass, by Messrs. Chance. The galleries, of which there are two, one over the entrance and one in the transept, have Gothic panelled deal fronts and open seats. The seats in the nave are also open benches, with oak moulded ends and carved panels. Over the vestries is a large room for congregational meetings, &c. The interior is 80 feet long by 45 feet wide, and will, the galleries included, seat 600 persons. The schools at the back are built of red brick. The upper school-room is 70 feet by 28 feet, and 30 feet to the ridge, with open-timbered roof, lighted by five triplet windows on one side, a large four-light window on the other; and the two school-rooms together will accommodate about 400 children. The whole of the buildings are warmed by hot-air pipes, fixed by Messrs. Weeks, of London. The entire cost will be about 10,000*l.* The architect was Mr. Bateman, of Birmingham; and the builders were Messrs. Branson & Gwyther.

Derby.—A meeting of parishioners of St. Werburgh's has been held, to consider the dangerous state of the tower of the parish church, and the means to be adopted for its preservation. The tower has been recently examined, and the upper part found to be in so dilapidated a condition, that it has been necessary to remove at once a considerable portion of the masonry, which threatened soon to fall upon the roof of the church, or into the churchyard. The complete restoration or rebuilding of the whole of that portion of the tower which is above the clock seems to be required. As a preliminary step a committee was appointed to obtain designs and estimates.

Armley (*Leeds*).—On the morning of Christmas-day, Armley church was re-opened, after having been closed for some weeks for alteration and cleaning. In the chancel open benches, facing north and south, have been substituted for the old-fashioned high pews, which choked up the area of the chancel. An arrangement has also been made, whereby the aged poor are now collected round the pulpit, in place of being seated, as formerly, in a remote and cold corner of the church. A warmer tone than before has also been given to the east end, by the use of a little colour with gold diaper on the chancel roof and eastern wall. The designs for the pulpit, lectern, &c., were furnished by Mr. Armfield, architect, Leeds, the son of the incumbent, under whose direction and advice the whole of the restoration has been carried out.

Ryton, near Newcastle-upon-Tyne.—A new Congregational Chapel has been opened at Ryton, for the villages of Ryton and Crawcrook. Mr. J. C. Lamb presented a piece of ground, situate about midway between Ryton and Crawcrook, for the site of the new building; and under the direction of Mr. Tillman, of Sunderland, architect, a chapel has been built by Mr. Lee, also of Sunderland. The style of the edifice is Early English Gothic; and it will accommodate from 250 to 300 persons.

Helensburgh (*Clyde*).—A new church is to be erected at Helensburgh, for the accommodation of

the rapidly increasing population of that favourite watering-place. Through the liberality of an old resident, an excellent site has been obtained, and Sir James Colquhoun, of Luss, the lord of the manor, has remitted the annual feu duty. The church has been designed by Mr. Honeyman, of Glasgow. It will be seated for 850, and will have attached to it a small hall, vestry, and waiting-rooms. The extreme length over is 115 feet, the width 52 feet, and the height from floor to ridge, 56 feet. A tower and spire, 140 feet high, is placed at the north-east corner. The style of architecture is that of the thirteenth century, of a plain but massive character.

STAINED GLASS.

Glasgow Cathedral.—Three windows of painted glass, by Signor Pompeo Bertini, of Milan, have been erected in the crypt of this cathedral. They are executed upon the Mosaic-enamel principle. One of them (the largest of the three) represents our Saviour and the Woman at the Well; the others, St. Luke the Apostle, and John the Baptist. This last window is erected by Mr. John Fergusson, of this city, merchant, to the memory of his uncle, the Rev. Edward Irving. The crypt now presents a series of Scottish, Belgian, Saxon, Bavarian, and Italian glass paintings.

Church of "Our Ladye and St. Michael," Abergavenny.—A stained glass window, by Messrs. Clayton & Bell, of London, has been placed in this church by the sons and daughters of the late Mr. Baker Gabb, of Llwyn-dû, near this town. In one light is a likeness (from an authentic source, in the possession of the family) of Father Augustine Baker, who was born at Abergavenny, in 1575, the author of several theological works still in use. Father Augustine Baker having belonged to the order of St. Benedict, that saint is portrayed in the upper compartment of the window. In the other light is Charles Baker, who suffered on religious grounds in 1679. Above him is the "saint" of the order to which he belonged, St. Ignatius, of Loyola. The background of the window is filled in with foliage and flowers, and bears the inscription.

PROVINCIAL NEWS.

Clifton. — The chains, &c., of Hungerford-bridge, which have been purchased for completing the long-unfinished suspension bridge at Clifton, will be delivered in June next, when the operation of suspending them between the piers erected on the Gloucester and Somerset sides of the Avon will be immediately commenced. It is hoped the work may be completed within the year 1862.

Lincoln.—In the twenty-eighth annual report of the Mechanics' Institution, it is said,—Your committee availed themselves of the opportunity afforded by the sale of the present Grammar School master's house in Broadgate, to possess themselves of a site whereon to erect the New Institute. Your committee next advertised for plans and elevations (an open competition of the architects of the United Kingdoms), which resulted in the receipt of a large number of designs, which were exhibited in the City Assembly-rooms. The choice fell upon the designs of Messrs. Hooker & Wheeler, of Brenchley, Kent. The committee have been reluctantly compelled to select one of the plainest of the designs; preferring, if subscriptions should render it necessary, to sacrifice mere outside show, to the convenience, comfort, and capacity of internal arrangements. The following particulars present the general features of the plans:—Elevation, northern Italian Gothic, constructed of red and white bricks and stone, real material being used in every part. Library fronting to Broadgate, 36 feet by 30 feet; height, 20 feet. At the back of the library a reading-room and committee-room, each 24 feet by 20 feet. A class-room, 36 feet by 18 feet, with moveable partition in the centre. Librarian's apartments in the rear of the building; and the school-room, 40 feet by 20 feet; height, 15 feet, detached. Covering the entire ground-floor is a room, divided by a moveable partition, 90 feet long by 37 feet wide, and 22 feet high, which your committee hope to adapt to the conjoint purposes of a lecture-hall and county museum; the whole furnishing ample accommodation for the present and prospective wants of the increasing city of Lincoln. The plans have been approved by the corporation, and the grant of 700*l.* confirmed and as soon as the contract for the erection; of the building shall have been entered upon, the money will be paid. The completion of the scheme will involve an outlay of about 3,000*l.*

Falkirk.—From the Falkirk Ironworks, of late, have been produced some very heavy girders, two of which, at Grahamston station, are the largest that ever went out of these works: they are 40 feet long and 3 feet wide, weighing about 7 tons each, and are intented for her Majesty's dockyard at Woolwich.

Inverury.—A new town house is about to be begun, as stones are being dressed on the site for a commencement. The plan selected is by Mr. J. R. Mackenzie, of Aberdeen, architect. The structure will be of the Roman Doric order; the front elevation consisting of two large wings, with a centre building, and large cornice supported by pilasters; an open balustrade running along the top; and a bell turret, with a clock in front, surmounting the whole. The extreme length of the building is 88 feet; breadth, 63 feet; height to top of parapet, 37 feet; and height to top of tower, 76 feet. On the ground-floor there is a convenient market-hall, with three offices attached; rooms for the sergeant of police and constable; also for the town's officer, with every necessary accommodation; two police cells, volunteer store-room, entrance-hall, and corridor. Up-stairs there is the public hall, 55 feet by 30 feet, with orchestra at one end and retiring-room, &c., attached. The hall looks northward, and occupies the back part of this floor; while in the front, looking southward into the Market-square, there is a council-room, 27 feet by 16 feet; record-room, committee-room, town-clerk's room, &c. The contractors are—for the mason work, Messrs. Munro & Stewart, Inverury, 1,240*l.*; carpenter, Messrs. Warrack & Daniel, Aberdeen, 764*l.*; plumber, Messrs. Hugh Gordon & Co., Aberdeen, 94*l.* 10*s.*; plaster, Mr. Gibson, Turriff, 128*l.* 9*s.*; slater, Mr. Jas. Robertson, Inverury, 60*l.*; total, 2,286*l.* 19*s.* The new edifice will stand at the end of the principal thoroughfare, immediately at the top of the Market-square, and in a line with the houses already built there. The present Town-hall, with parish school attached, is to be pulled down. This will enlarge the square considerably, and make it more suitable for the flourishing markets.

RAILWAY MATTERS.

THE works on the metropolitan extension lines of the London, Chatham, and Dover company have progressed with rapidity since they were commenced by Mr. C. Watson, for Messrs. Peto & Betts, in February last. The West-end Extension line is to join the main line at Beckenham, to pass under the Sydenham-hill, near the Crystal Palace by a tunnel, thence to Dulwich and Battersea, where it terminates by a junction with the Pimlico railway, leading to the Victoria Station. The intended City Extension branches off from the West-end Extension line at a point near Dulwich, passing through Camberwell to Blackfriars. The works on the West-end Extension, as described by the *Morning Post*, from which we quote, are of considerable magnitude, and consist of 4½ miles of cuttings and embankments, 1¼ mile of tunnel, and 4,262 feet of viaduct, making together 6¾ miles. The City Extension line is to consist of one mile of cuttings and embankments, 3¼ miles of viaduct, a bridge over the Thames, crossing close to Blackfriars Bridge, making together about 4½ miles of line; a goods station by the water-side, and a passenger station at each side of the river. On the West-end Extension the works are in a more advanced state than those on the City Extension. Near the point of junction at Battersea about 60 acres of land have been secured, and extensive ranges of buildings are in course of construction, similar to Wolverton. All of the bricks used on the line throughout are hard and compact, and some of them made by one machine in particular are beautifully formed, very solid, presenting a polished surface of an excellent red colour. It often happens that in the course of a fortnight the clay excavated and brought out of the tunnel is carried into it again in the shape of solid hard bricks. There are at present about 2,000 men and 250 horses employed upon the works.

The extensive alterations at the Stockport Station are now in progress. The magnitude of the works rendered it necessary that they should be completed as quickly as possible; and the contractor, Mr. Parnell, of Rugby, was pushing it forward, when he was annoyed by the brick-setters striking, and so interrupting and delaying the building part of the contract. Something has nevertheless been done; and the outline of the new station may be discerned, while nearly the whole of the old station has been razed.

Railways are now being constructed in Holland. The Government is making use of its able civil and military engineers to overcome the difficulties of crossing the rivers; and has in view the carrying out of a complete railway system within ten years. There will be constructed about 900 miles of railway, at an expense estimated at 7,000,000*l.*, of which a third part is to be expended on railway bridges only. These railways will unite the following towns:—Amsterdam, Hague, Rotterdam, Breda, Maastricht, Utrecht, Arnhem, Zutphen, Assen, Harlingen, New Diep, and others. Besides the railway, a canal will be made to unite the capital, Amsterdam, immediately with the ocean.

SCHOOL-BUILDING NEWS.

Northampton.—The new schools of St. Giles, Northampton, were opened on New Year's Day. The schools have been built by Mr. Cosford, under the superintendence of the architect, Mr. E. F. Law, both of this town. The site is opposite the church. The buildings form a large group, consisting of boys' school, girls' school, infant school, and three class-rooms. The boys' school and infant school are built in the form of the letter T, with one side of the boys' school and one end of the infant school facing the church. The girls' school is at the back of the boys' school, and at right angles to it, with the front facing the south. Each school has a large play-yard and out-offices, having no communication with each other. On the front towards the church the windows, which are Gothic, are all of Decorated character, and have Bath stone dressings. The gable of the infant school, together with a bell-tower immediately adjoining it, form a feature at the south-east angle of the group. The tower is surmounted by a wooden bell-turret. The roofs are high-pitched, and open on the inside; all the timber work exposed to view, and stained and varnished. The principals are ecclesiastical in character, having curved ribs, resting on stone corbels. At one end of the boys' school, over the apparatus closet, is an organ gallery, the front and side of which have a simple fence, formed with iron scroll balusters, supporting a chamfered and stopped rail.

Upperthorpe.—The foundation-stone of a new school in connection with the Unitarian chapel has been laid at Upperthorpe. The school-building will be in the Early English style. The building, which will be of one story only, will be 68 feet long by 34 feet in width. There will be a large school-room, capable of accommodating 360 scholars, and two class-rooms for the elder boys and girls on Sundays, which will give accommodation for thirty-five in each. The two latter rooms will be divided by a partition removable at any time. Mr. John Frith, the architect of the chapel, has been again employed; and Mr. Reynolds is the contractor for the building, and Messrs. Slack & Grayson for the joiner's work. The cost will be about 700*l.*

METROPOLITAN BOARD OF WORKS.

ELECTION OF DISTRICT SURVEYOR FOR CHELSEA.

AT a meeting of the Board, on the 3rd inst., the members proceeded to elect a surveyor for the district of Chelsea. The votes were as follow:—

Sancton Wood	33	H. Laxton	15
T. E. Knightley	25	Edward Roberts	10
R. Kerr	23	S. Hill	9
J. W. Papworth	21	A. J. C. Baker	9
John Cole	21	W. Lightly	8
John Billing	20	Joshua Liddiard	8
S. Salter, jun	20	Alfred Williams	4
Horace Field	19	Josiah Houle	3
Sam. S. Markham	19	Ed. Paraire	2
H. S. Legg	17	Richard Richardson	1
Sidney Godwin	16	A. Moseley	0
Arthur Cates	15		

The ultimate voting for the six highest on the list was as follows:—

S. Wood	30	27	30	28	30	36
T. E. Knightley	21	17	17	17	6	
R. Kerr	22	15	17	13		
J. Cole	16	12	10			
J. Billing	15	11				
J. B. Papworth	9					

NEWS FROM NEW ZEALAND.

London Exhibition of 1862.—The articles to be sent to the International Exhibition had to be delivered in New Zealand by the 25th of October last, as her Majesty's Commissioners have fixed the 31st of March as the latest period at which goods can be received in London.

Meanee Bridge.—The *Hawkes Bay Herald* says, respecting this bridge,—"We learn that the delay in proceeding with this work,—so much wanted,—now arises solely from the pile-engine being in use; but that, in the course of three or four weeks, it will be placed at the disposal of the

contractor, who will then proceed with the piling. Most of the timber has now been received."

Napier Gaol.—Mr. Miller's tender, 1,050*l.*, has been accepted. The others were, Mr. Trestrail's, 1,234*l.*; and Mr. M'Sweeny's, 1,070*l.*

English Church, Napier.—Tenders were invited for supplying seats to the English Church at Napier.

Otago Diggins.—Mr. T. M. Hassel contributes to the *Lyttleton Times*, of August 24, an interesting paper, entitled, "A Visit to the Gold Fields." Mr. Hassel, towards the end of his article, says:—"It would be premature at present to pass an opinion as to the probable duration of the Otago diggings; but if they do not fail in three or four months' time, when they will have been well worked and had a fair trial, I think we may safely count upon their continuing to be above the average of paying gold-fields for years to come."

STABILITY OF THE CRYSTAL PALACE.

SIR,—I have just read the letter of a "Season Ticket-holder," in the *Builder* of 21st ult. He may make himself easy on the point. The floor at the places alluded to was laid originally on joists bedded on the earth. The earth, from the constant watering of the contiguous flower-beds, has sunk a few inches, and carried the joists with it, so that the floor is still solid, though certainly a good deal out of shape.

We are gradually going through the floor of the whole building, and correcting this imperfect mode of construction, by enclosing all the flower-beds in brick walls, on which the floor-joists will rest, independent of the earth. A good deal of this has been already done at the tropical end, outside the Assyrian Court, and the rest will follow. Your correspondent may rest assured that the "authorities at Sydenham" are quite alive to the safety of the building; only, not having too much money to spend, they postpone repairs as long as they possibly can, consistent with prudence.

G. GROVE, Secretary.

JUST A LITTLE MUSIC AFTER DINNER.

I FEEL that I must beg to call the attention of your readers to another popular fault; and I address you because architects and artists, generally, are thinking men. If there is one disgusting thing prevalent in that vortex of sham which we call society, it is the way in which young ladies are taught to do a little drawing and music. Instead of drawing from the natural object, they draw from copy: the flabby, dotty line they learn as picturesque: the wretched daubs of blue, scratched with penknife, and called water-colour landscape, all go to make up such a practical lie in life, that one is astounded that Heaven does not avenge itself upon such outrages against humanity. Perhaps the worst form of society's art is the recent illuminating fit. What on earth can be the use of daubing Gothic letters with inharmonious colours? What business has any one to illuminate, who has not first learnt to draw the human figure, and to design? How much better their time would be spent in reading such works as would teach them to appreciate the beautiful in architecture, painting, sculpture, if they would only observe God's nature instead of making a parody of it in water-colours. But the great sin against good taste is one in which I am sorry to say the architects and artists are as great offenders as the body of men at large. It is in encouraging the "little music after dinner." I know nothing so contemptible as a man being amused by a little pseudo-art, instead of much art and good art. In Germany, where *dilettanti* of music are more numerous than elsewhere, and where they often attain the perfection of artistes, I have never once seen any one sit down to a piano to sing or play who could not do so well; and, moreover, I have been struck by the simplicity of the music they would sing,—the simplest ballads of Aft, Schuberts, &c.;—and these too often singers who might have done justice to high dramatic compositions. But what is the case in England? Why you hear "Trovatore" Misereres, begging airs from "The Prophet," sung by girls as if they were veritable Titiens and Viardots. If they must sing, for heaven's sake let them stick to the simplest ballad. In this respect I have always much admired Hungary, where the national songs of the country are the *repertoire* of men and women amateurs. Nothing but the most utter ignorance of what real singing is could induce an amateur to attempt that which is not suited to him. Another point. Who ever did sing after dinner? I have known many singers who were never less than six hours fasting before singing. Ask a veritable artiste to sing after dinner one of her favourite airs, and you will soon see her contempt at such a proposition. How is it possible a person can sing after eating? One is amazed at a man being so ignorant of the construction of the body. Men and women would be better employed in trying to learn to appreciate the music of Palestrina, Bach, Beethoven, and Wagner,—in learning to be impressed by their noble harmonies instead of by the vulgarity of popular airs. These great composers speak to the soul what words cannot express: they make known to the soul a purity of feeling, a manly honour that no words can express. It is a sentiment that would be understood by all souls if they were not wrapped up in a mass of conventional sham. I suppose there is no man, who loves the music of those great composers, who does not rise a better man after hearing their works. All men can appreciate them if they will only think of what music is for; that, like painting, it is to benefit and purify man's soul; that it is to teach him a moral lesson in the midst of this world's wickedness and lying; that it is to help him to rise above the sham that surrounds him. Let us then strive our utmost to be real in life, and we shall be real in art: let truth be our guiding star, and we can follow no better rule than that so truly and nobly written by Mr. Ruskin: "Let us improve ourselves that we may improve others." Life without this can be but of little use, and on it have worked the greatest and best men.

A. W.

P.S.—Here is a question for the philosopher. Why in England and Spain is there more street-music than elsewhere, these countries being given to guitar strumming and whistling, and yet they produce no very great composers? In Germany you never hear street music and whistling, and it produced Beethoven and Bach.

NOTES ON FIRECLAY.

THE BEST KNOWN NON-CONDUCTING MATERIAL OF FLAME HEAT.

THE absence of oxyde of iron and lime are indicative of a good earth. A fireclay furnace that would not crack would allow one to have a down draught, dragging every particle of carbon through heated embers, so that no black smoke would be generated. In the present iron furnace-bars, if the blacks get away from the fire, they are sure to rise into the air (a black volume of smoke against a clear blue sky is frightful). The air from fireclay pipes, heated, is alone fit to be breathed. By using metal cooking vessels we become susceptible to every change of the weather,—indeed, barometers: we are mercurialized, copperized, and, if you like, tin-potized! Mr. Beckett, of Wolverhampton, has looked much at fireclays. I am obliged to Mr. Sharpe for his attention. What I desire to see is, fireclay worked into articles of use, such as furnaces, furnace-pipes, pots, crucibles, &c., that will really stand heating and cooling. Fireclay is a production *sui generis*, and must be treated as such.

C. M. D.

FIRE-CLAY IN BUILDINGS.

OBSERVING, in your journal of last week, some correspondence purporting to be an answer to a letter which appeared in the number for Dec. 14th last, permit me to make a few remarks on fireclay, &c.; also to point out a difficulty or so that appears to have been overlooked.

Fire-clay slabs of themselves, worked into the dimensions of an ordinary warehouse door—say 6 feet by 3 feet—if subjected to a test of white heat, and then to a sudden application of cold water, would split in all directions. With reference to fireproof buildings, I should suppose that all that was required to make a building secure from fire would be to render fireproof the floors, columns, girders, doors, shutters, and all openings; because it is generally known that, after the most severe fire, the walls of the building have been proof against fire. It is not through walls of (say) 2 feet thick, that fire forces its way, and plays such terrible havoc—to wit, the great fire in Tooley-street. Who can say that the fire made its way through the walls? No; it is through the openings and outlets where fire forces its way. I myself witnessed the iron doors, which were considered fireproof, melting, warping, and buckling at the late fire.

Your correspondent also remarks that all doorways and openings ought in no case to be less than 24 inches above the flooring; so that, in the event of fire, water should be thrown to that level. How, then, could locomotion, in the shape of trucks and hand-barrows, be carried on from one warehouse to another, with a rise of 2 feet in each opening. Secondly, of what value would goods be that had been soaking in 2 feet of water, if all above that was destroyed.

Trusting I am not trespassing too much on your space, allow me to call Mr. Dick's attention to a patent taken out by me for fire-clay doors, shutters, columns, girders, &c.; being the first ever brought before the public. They are constructed of a peculiar fire-clay, mortised, cemented, and strongly tied together, without any ironwork whatever being exposed. They have been subjected to the most severe tests; and so satisfied am I of the fire-resisting qualities of my patent fire-clay doors, &c., that I will challenge the world to destroy them by fire and water.

WILLIAM STRATFORD HOGG.

IMPROVED LIGHTING OF TOWNS.

WITH few exceptions, everything in use by the human race becomes obsolete, and sooner or later yields to improvement. The steam-engine of to-day would astonish James Watt himself. Canals and Macadamised roads, once such perfection, have given place to railways, which in their turn will most likely yield to improved locomotion. The few exceptions to these mutations are the triangle for mathematical purposes, the chariot wheel, and staircases; though I am prepared to admit that the new houses in Victoria-street have endeavoured to give the last a *lift*. But, to be serious, few things have remained equally unimproved, knowing so little change, over such a *piping* time of forty years, as our employment of gas for street-lighting. This *status quo* cannot have arisen from its perfection, but that the matter has been considered too *light* to be seriously weighed. Its turn has come at last, and not too soon; for assuredly improvement never was more needed than in our street-lighting in London, which has become little better than a mockery and a jest. Everybody has remarked it, and every one is fully convinced of it; but for the very reason that it was and is every one's business to have light enough in the public streets, nobody has stirred in the matter. With such a splendid illuminating power as we are possessed of,—with such an unbounded supply of material for producing it,—we who gave it to the world are almost suffering it to fall into disuse. Look at our principal streets—take, for example, Oxford-street,—and tell me if it be much better lighted than by the old oil lamps. It really seems as though the problem to be solved were, to reduce it (small by degrees, and beautifully fine), till its light, like the life of the miller's horse, could be sustained—firstly, on *next to nothing; and on nothing next*. And yet coal is cheaper with us than with any other nation, and our capital large and abundant. Take, for instance, Paris—where gas, I believe, costs (by means of transport duty and octroi on the coals) almost 12s. the 1,000 feet—I say, take Paris, and ask any reasonable and unprejudiced man if London in comparison be not a perfect Hades. Why is this so in Paris—a city where gas is a monopoly, where only the ghost of parochial influence exists? Is Paris so much richer than London? Have its shops and houses so much more wealth, that they need for their protection to be better lighted at night?—for rats and thieves both shun the glare. I pause for a reply. Yet so it is; and not only has Paris been a very long time much better lighted: but, not satisfied with the present state of things, there is still the cry of *excelsior*. Behold the result: new round lamps, without those ponderous frames (which seem framed, like Atlas, to support anything but a light world), are superseding everywhere those old square prisons, that have known no change since gas-light dawned on us, conjured up by Murdoch, that genius of the lamp.

The study of the subject has led to the common-sense conclusion that, by reasonably diminishing the elevation of the lamps, the pathways, &c., are much better lighted. It is evident that we approach the flame as nearly as convenient in cases that we need the light. Where, then, is the sense of placing the lamps, as now, so absurdly high? The new French lamps are at least 3 feet nearer the pathways. This is not the only improvement. As usual, the subject being agitated, the attention of inventors has been directed to the matter; and, I am happy to say, one of our countrymen is first in the race. Mr. Frederic Barnett, the same whose name has latterly been before us for the invention of some important railway signals, examined at the Board of Trade, has brought to light, so to say, a new system of economy in

street lighting. His principle appears to be to avail himself of that portion of the light which in our lamps is improvidently expended on the stars. He employs flat white earthenware or china reflectors, placed horizontally above the flame, in the largest diameter of the lamps. In the middle of these plates there is an oval hole, surmounted by a conical chimney, which establishes so powerful an upward current that the smoke and other emanations pass quickly by that channel, preserving themselves and the interior of the lamp much longer clean. These reflectors, without prejudice to the side rays, throw the otherwise lost light, far and near, beneath, on the well-known principle that the angle of reflection is equal to the angle of incidence. The light gained in the old square lamp is about 25 per cent., and in the new round about 35 to 40 per cent.

Mr. Barnett has made a new lamp to develop more fully his principle, which has a larger reflecting surface, and is so constructed as to have little or no shadows, and which will yield at least 50 per cent. more light on the pathway, without causing any increase in the consumption of gas.

This lantern is very light and neat in appearance, and elegant in form. These reflectors were already adapted to the lamps in the Place Vendome, and produce so sensible a difference as to arrest the passers by. The expense of the reflectors, from their nature, must be inconsiderable; and, from their trial, already some months, by the City authorities, without perceptible change, they must be durable.

It is much to be desired that capable and authorised persons should look into the matter, with the view of giving us the earliest benefit of the improvement.

LAMP-LIGHT.

BLACKFRIARS BRIDGE COMPETITION.

SIR,—In a recent number of your journal, you favoured me with the insertion of a statement respecting the original cost of Blackfriars Bridge, and that of the new bridge at Westminster.

At the present period it has struck me as likely to be not uninteresting to your readers to learn the state of the City competitive system, a century since, in the case of Blackfriars, particularly as, in a recent letter in the *Times*, one of the members of the present committee on the proposed new bridge has expressed himself dissatisfied at the course that has been followed with the designs of the eight individuals who were applied to in this early part of the year by the City authorities.

From the council reports we read that in August, 1759, the following advertisement appeared in the papers:—

"The committee for building a bridge from Blackfriars . . . . will meet at Guildhall, on Thursday, the 4th day of October . . . to receive all such plans, elevations, and estimates, for a stone bridge, as any person or persons shall then think fit to offer for their consideration."

The competition was thus thrown open to all the world; and ten weeks after (November 1), upwards of fifty plans and models were offered to the consideration of the committee. Fourteen of these were eventually retained; and these were reduced to the following eight authors, viz.,—Bernard, Chambers, Dance, Gwyn, Mylne, Phillips, Smeaton, and Ware. After several intermediate meetings and consultations the names of the several gentlemen so retained were put up in alphabetical order; and votes being taken, the majority of hands was ultimately declared in favour of the plan of Mr. Robert Mylne, a young Scotchman, who had only just returned from his studies in Rome. The selected plan then went under a further test, and was submitted to eight of the leading scientific men of the day, who reported on the principles and strength of Mr. Mylne's proposed elliptical arches, viz.,—Thomas Prowse, of Biddeford; Peter Davall, Middle Temple; Dr. Bradley, Greenwich; Dr. Blair, Leicester-fields; Dr. Pemberton, Mr. Muller, Mr. Simpson, Woolwich Royal Academy; after which the design was finally adopted.

While reverting to this subject a perhaps more imposing ordeal was named when the design was submitted of Messrs. Telford & Douglas, in 1801, for constructing on the site of Old London Bridge a cast-iron bridge of a single arch, 600 feet in span, with 65 feet rise. On the practicability of this scheme there were submitted a set of questions to no less than seventeen distinguished individuals, the names of whom remind us of the leading men of science at the commencement of the nineteenth century. They were as follows;—Dr. Maskelyne, Professors Robertson, Playfair, Robeson; Drs. Milner and Hutton; General Bentham and Colonel Twiss; and Messrs. Atwood, Jessop, Rennie, Watt, Southern, Reynolds, Wilkinson, Bage, Wilson.

In conclusion, the final decision of the designs to be adopted for the new bridge has yet to be determined by the Court of Common Council.

A. S.

THE SCIENCE OF THE ARCHITECTURAL ORDERS, AND ORNAMENT GENERALLY.

IT is, perhaps, universally allowed that it is not possible to fabricate more than three architectural orders; but why this is the case has hitherto been an unopened arcanum, which I have at last been able to understand, and will now unfold.

The cause of this circumstance is the geometrical condition that all figures are composed of straight or curved or a combination of both of these kinds of lines; from which it follows that there can be only three architectural orders, or three kinds of ornament; inasmuch as to affirm that, it being possible to delineate only three kinds of geometrical figures, it is nevertheless possible to produce more than three architectural orders, is almost a contradiction in terms, and an evident absurdity. And it is an absurdity because the several orders of architecture, and all varieties of ornament generally, are "figures;" and it is allowed that only three kinds of "figures" can be produced.

The Grecian orders are by no means pure, according to the above mentioned law; that is, they do not consist of the three different kinds of figures. The Doric is, for the most part, composed of straight lines; and the Ionic and Corinthian have each also a great amount of straight line, and are looked upon as different in kind, although properly they constitute but one order, on account of the Ionic spirals, which embody a very large amount of curves. It is clear that, to be pure, the orders should respectively be composed alone of straight or curved lines, or combinations of both of these. And also that all Egyptian, Saracenic, and all other columns, should likewise be unmixed, where any other than the order which is produced by combinations of straight and curved lines is intended. It is almost universally acknowledged that the Doric fret and the Ionic anthemion are beautiful ornaments; but, as with the orders, the cause of this has hitherto been concealed. The Doric ornament is perfect, because it is composed entirely of straight lines; and, similarly, the Ionic is almost so; inasmuch as, except the stems of the flowers, it is composed entirely of curved ones. A good example of a third kind of ornament is possible, which could be composed of combinations of both of these lines.

It has probably been supposed that the reason why only three architectural orders can be devised is, because they embody strength, elegance, and ornateness, which I formerly thought; but, seeing that there are many other properties, which could artificially be represented, and this in an architectural column; it must be concluded that this is not the cause why only three kinds of columns, either have been, or ever can be, fabricated. The correctness of the explanation here given can be proved, indirectly, by the exhaustive process,—by showing that every other is unfounded; which would not, I take it, be a very difficult thing.*

J. ALEXANDER DAVIES.

THE STAGE AND ENTERTAINMENTS.

St. James's Theatre.—There is not a more purely tasteful scene to be found in any of the present Christmas productions, than that sunset by the sad sea waves, in "Perseus and Andromeda," wherein the heroine (Miss Herbert) is seen chained to a rock, waiting for the odd monster that is to devour her. The painting of it does credit to Mr. Lloyd, and the arrangement to the management. The "Apartment in the Palace of the King" is a careful piece of Doric architecture, polychromed, and shows the painter has not forgotten the training he had in that sort of work at the Princess's in time gone by. The "General Petrifaction," as it is called, when the people on the stage are suddenly turned to stone by the production of Medusa's head, is admirably managed, and shows the hand of an artist. The writing, too, is much better than the "Slobberybobbery" that passes for it in some quarters.

Gallery of Illustration.—Mr. Mark Lemon, by means of pithy writing, a pleasant manner, and illustrations by Messrs. Dalby & Thompson, is making the history of old London attractive. Under the title of "About London" he has prepared three lectures, which are given at intervals on different mornings, so as not to interfere with Mr. and Mrs. German Reed's entertainment, which is still running its successful course. London, as our readers know, has a history full of interest: every street has a story; and many will now hear these for the first time, and with obvious advantage. While Mr. Lemon is precise, he never ceases to be amusing.

* We insert our correspondent's letter without committing ourselves to the theory.

CAUTION TO EXTRAVAGANT CLAIMANTS.

Turnham v. *The Metropolitan Railway Company.*—The plaintiff is landlord of the Rising Sun public-house, corner of Chalton-street and Euston-road, and sued the company for compensation for certain cracks and injuries to the walls of his cellar (which runs under the forecourt of the house), by reason of the works of the Underground Railway. It is understood that he made no specific claim, but at once brought his action. The company offered 25*l.*, which was refused.

The case came on at the Sheriff's Court on Monday last, before Mr. Serjeant Hayes and a special jury, who all went to view the damage. The plaintiff's legal advisers thought proper to lay the damages at the enormous sum of 1,000*l.*, though it was entirely unsupported by his own evidence, or by that of his witnesses, Messrs. Finch Hill & Paraire, Mr. Jeffs, builder, and others.

The company called no witnesses, and the jury gave in a verdict for 20*l.*, thus throwing the whole of the costs on both sides, which cannot be much short of 200*l.*, on Mr. Turnham.

ASSESSMENT OF BETHLEHEM HOSPITAL: ARBITRATION.

ON Thursday last a special meeting of the parish officers was held at the Vestry Hall, St. George's, Southwark, when the assistant overseer presented the award of Mr. George Pownall, to whom the pending issue had been referred, whereby the annual rateable value of this building, ground, and premises was adjudged to be 3,075*l.*, and inclusive of the House of Occupation, 3,728*l.* It appeared that the governors had instituted an appeal to Quarter Sessions against their assessment, which, according to the valuation of Mr. Charles Lee, to whom the valuation of St. Thomas's Hospital had recently been referred, was claimed to be rated at 1,800*l.* a-year. The parish officers retained Mr. John D. Paine, whose valuation, after survey, amounted to a slight excess of 4,000*l.* per annum, for the hospital property. Mr. Pownall's award of 3,728*l.* is, however, mutually binding on all parties.

PATENTS CONNECTED WITH BUILDING.*

LOCKS AND OTHER FASTENINGS. *M. Winkler.* Vienna. Dated 2nd May, 1861.—The patentee claims the construction of locks or other fastenings wherein any number of discs or their equivalents, furnished with projections or incisions, are caused, by the introduction of the proper key, to arrive before corresponding grooves or projections on the inner surface of a barrel in which these discs are situate; and which discs are, on turning the said key, caused to enter into and revolve in, or on, the said grooves or projections of the barrel, substantially as described with reference to the drawing; such locks being made of any suitable material, and employed either by themselves alone, with the simple addition of a bolt and lever, or in conjunction with any other description of locks or fastenings, and for any purpose for which locks or other like fastenings may be used.

APPARATUS FOR MAKING BRICKS. *J. Platt & W. Richardson,* Oldham. Dated 6th June, 1861. This invention relates, first, to sifters or screens for clay intended to be moulded into bricks; and consists in directing a blast of air from a narrow opening against the outward surface of the said sifter or screen, so as to keep the meshes clear. Secondly, the invention relates to that part of the mould of brick machinery by which the pressure is given to the material; and consists in forming such part in two or more pieces, adapted to move independently of each other, so as to effect a slight opening for the escape of air; such pieces, however, being so arranged as to be capable of being forced forward simultaneously, when desired.

AN IMPROVED COMPOSITION FOR BUILDING, TO BE USED IN SUBSTITUTION FOR BRICK AND STONE, AND AN IMPROVED METHOD OF CONSTRUCTING WALLS AND ROOFS FOR HOUSES, &c. *S. Standfast,* Hackney, Middlesex. Dated 4th June, 1861.—This improved composition is formed by running into blocks the following ingredients:—Burnt clay or loam, iron dust, brick rubbish, gravel, hoop-iron, wire, lime, cement, vegetable fibre, animal hair, and sand. The improved method of constructing walls and roofs consists in the employment of hollow frames or moulds, formed of wood or metal, between which the above-named ingredients are run or placed in a loose state, the material for forming the outer face of the wall or roof being first applied against the inside of the material forming

* From the *Engineer's* Lists, and other sources.

the outside of the frame or mould. The materials form one solid, compact, and jointless body. After they have become set and solidified the frames or moulds may be removed. The patentee prefers to construct the chimneys and flues required in the building by letting into the composition glazed earthen pipes.

BRICKS AND SLABS IMPERVIOUS TO DAMP. *W. C. Forster*, Gibson-street, Lambeth. Dated 20th May, 1861.—The object of this invention is to produce bricks or slabs glazed or vitrified in the interior; and thereby to render them perfectly impervious to damp; and at the same time, by avoiding glazing the external surfaces, to preserve the adhesive properties of ordinary bricks or slabs.

DRESSING SLATES. *J. W. Greaves*, Port Madoc, Carnarvon. Dated 18th May, 1861.—This invention relates to an improved construction, arrangement, and combination of machinery or apparatus for dressing slates, whereby accommodation is afforded for two workmen at the same machine; thus producing double the amount of work hitherto accomplished in machines of this description. According to this invention the cutter or cutters is or are mounted at a slight angle or inclination to the axial centre line of the main shaft of the machine upon a pair of holding discs or frames. The cutting edges of the cutter or cutters are in opposite directions; so that, by imparting a circular reciprocating motion to the discs, they will alternately act upon and dress the edges of the slates which are presented to them upon stationary cutters or knives at each side of the machine. The reciprocating motion of the discs and their cutter or cutters may be derived from a revolving crank or cranks driven by a pulley and band, and acting upon a lever arm or arms fast on the main shaft, or by any other convenient mechanical contrivance. The different sizes of the slates are gauged by suitable gauges on each side of the machine.

AN IMPROVEMENT IN FLOORS. *R. Preece*, Clapham-road, Surrey. Dated 24th May, 1861.—This invention consists in forming spring floors, especially suitable for dancing upon, by placing the sleepers or beams which support the joists upon blocks of india-rubber, or upon spiral or other suitable springs.

WARMING AND VENTILATING.—*C. Batty*, Marylebone-road, London. Dated 24th May, 1861.—This invention consists, first, in bringing the external atmosphere direct to the fire-grate, that the fire may be supplied with pure air, and without the assistance of the air in the room in which the fire is placed. The air is introduced into a chamber beneath the grate, where it is divided into several currents by flat bars or current directors; part of the air being conducted underneath the grate, and enters the fire at the bottom; and part is directed to the front of the fire to compress the smoke to the fire, and cause it to be burnt. As the air which is supplied to the fire is independent of that existing in the room, there is no draught, as the air at or near the floor of the room is not used for the supply of the fire. Secondly, the bars of the grate are made much broader than usual, and are placed in an oblique direction, and serve to direct the air to the fire, and thus consume the gases generated by the same. Thirdly, part of the air supplied from the external atmosphere, as before described, is directed to a chamber constructed round the grate where it is heated. The air thus heated is admitted and directed by suitable apertures or valves into the room to warm the same, and causes a true circulation.

A CONE PREVENTING SMOKE AND EXTINGUISHING FIRES IN CHIMNEYS.—*A. L. C. de Montagu*, Paris. Dated 16th June, 1861.—This invention consists in the peculiar construction and application of a chimney cover or pot for preventing, in any weather, chimneys from smoking in the interior, and for facilitating the extinguishing of fires therein. This conical cover may be made of strong sheet iron, baked earth, or other suitable material; and is fitted to the upper opening of the chimney duct. The diameter of the base of the cover is equal to that of the orifice which it covers, and its height about double the diameter of its base: the top of the cover is truncated by a section perpendicular to its axis, and is of a diameter equal to one fifth of the diameter of the base for fuel, giving off little smoke: the upper half or cone is perforated with holes of a diameter equal to a twentieth of the diameter of the base, with an interval between each of them equal to double their diameter.

ORNAMENTATION OF METALLIC CHIMNEY-PIECES OR MANTEL-PIECES.—*H. Crichley*, Birmingham. Dated 29th May, 1861.—The patentee claims making metallic chimney-pieces or mantel-pieces from tubes and plates, or sheets of metal joined together by riveting, screwing, soldering, or otherwise; instead of making them by the process of casting, as ordinarily practised. Secondly, ornamenting metallic chimney-pieces or mantel-pieces, and also stoves and fireplaces, by affixing ornamental paper to those parts of the chimney-pieces or mantel-pieces, or stoves and fireplaces, which it is wished to ornament.

SHOP-FRONTS.—*W. Riddle*, Barford-street, Islington, and *H. G. Coombs*, Union-street, Southwark. Dated 7th June, 1861.—This invention consists in substituting a revolving glazed case for the fronts at present in use.

Books Received.

VARIORUM.

THE first number for the new year of the *St. James's Magazine* is a good one, as all might expect it would be, seeing that it includes amongst the contributors to it Mrs. S. C. Hall, the conductor; the Rev. J. G. Wood; the author of "John Halifax;" Sir Jas. Prior; Sir Emerson Tennent; Mr. Fairholt; Mr. Fonblanque, jun.; and Mr. Thos. Hood. Mrs. Hall, besides continuing "Can Wrong be Right?" commences a series of "Memories of Irish Character,"—a capital beginning on her own special ground. The practical article of the number (there is usually one of that class) gives an account of the Pneumatic Despatch. Mr. Fairholt's is a very *apropos* sketch, "At a Pantomine," to illustrate which, he also lends his ready pencil.——*The British Workman* is doing good amongst the working men and women of the land. Some of the engravings are excellent.——The *Art Journal* contains a strong article on what it thinks weaknesses in the management of the approaching International Exhibition, especially as to the indifference shown to public opinion. We quote part of the writer's reply to Mr. Cole's observations at the Society of Arts:—

"We say nothing in praise or disparagement of the adopted design: it may be good, or it may be such as to reflect little credit on the constructive arts of the country; but to contend that, because Michelangelo and others had erected grand edifices, though not educated as architects, and because failures had occurred ten years ago, *therefore* the profession ought not to be consulted, is puerile logic. As a rule, if a man find himself out of health, he applies to a regular practitioner in medical science; if the physician's prescriptions fail, possibly he may follow the advice of some quack or amateur dispenser of drugs. Without for one moment comparing Captain Fowke, whom we believe to be a most skilful engineer and a gallant British officer, with such an individual, it seems evident the commissioners of the International Exhibition have acted upon the principle indicated. The reference made by Mr. Cole to the designs furnished by Sir J. Paxton, conveys an erroneous and an unjust impression. As urged, it leads to the supposition that Sir Joseph's designs were in the same class and in the same order as those furnished by the architects whose efforts he ridicules. This was not the case. His suggestion was altogether of a different character, and for a work such as an architect would have little connection with; but such as, by his antecedents, made the proposer specially fitted for working out.

Architects had sent in their designs in reference to a building of brick and mortar, as they had been invited to do. Sir Joseph, naturally enough, advised the adoption of a monster conservatory; and the facilities which this plan offered as to time and cost of execution, as well as its fitness to a merely temporary requirement, decided the matter, and wisely so, in his favour.

It is but justice to the competitive architects to affirm that it was not in their sphere of action that Sir Joseph won the preference, but in that which was his own. It was in his case but an enlarged field of operation in a speciality to which he brought the experience of a life. And it was *because* he had so long and diligently followed this branch of his profession, and *because* he had confined his proposition *strictly within the limits of its operation*, that he succeeded.

There was in this instance no exceptional action at all; and, therefore, the illustrious examples which Mr. Cole thought it becoming to cite in support of his theory, that the study of one class of art peculiarly adapted its votaries for the profession of another, and that, as a natural sequence, the finest works in architecture have resulted from the labours of painters and sculptors, even if true, have no affinity with it."

The *Industrial Magazine* is the title of a new periodical, which is to be a "Trades' and Co-operative Record." We do not admit the truth of the assertion in the programme, that "it is notoriously a matter of the greatest difficulty to obtain the insertion of a single article, on an industrial question, written from a working man's point of view, in any of the leading newspapers, magazines, or reviews of the day;" but we nevertheless welcome the new organ of labour, and hope it may aid in the intelligent discussion of social questions.——The most valuable part of the January number of the *New Quarterly Review* (Hardwicke), is the "Summary of Literature of the Quarter." This is very comprehensive.

Miscellanea.

THE MANCHESTER AND LIVERPOOL FREE LIBRARIES.—From the Report of the Manchester Free Libraries, recently published, it appears that from the five libraries, including the Reference Library at Campfield, the number of books issued daily throughout the year at all the establishments is 1,369 volumes. At the two Liverpool Lending Libraries, irrespective of the "Brown Library," the issue per diem is 1,580 volumes; or, a daily excess of 211 volumes over those of Manchester. There are at present 9,700 volumes lent weekly at these lending libraries, to 9,020 active borrowers.

THE MANCHESTER ACADEMY OF FINE ARTS.—At the annual meeting of this body, which was held in the Royal Institution, Mosley-street, it was stated in the report that the sales at last year's exhibition, which was a very attractive one, amounted to 5,000*l*. The exhibition of the present year had, with other institutions, felt the influence of the depressed state of trade. The sales, however, already amounted to 1,800*l*.; and the selections had yet to be made by the prize-holders of the Manchester Art-Union. About 30,000 had already attended the exhibition; the numbers averaging about 600 daily. The number of members of the academy was still on the increase.

THE THAMES EMBANKMENT COMMISSION.—The commissioners appointed to inquire as to the propriety of embanking the south side of the Thames have been sitting, with the Lord Mayor presiding. One witness, Mr. Crosby, of the Metropolitan Board of Works, said he would carry out an embankment along the whole side of the river; whether on the present line or not must depend on the conveniences of trade. At Lambeth an embankment, such as Mr. Cubitt made at Pimlico, he should recommend; at Rotherhithe a perfect wall only. On the question of taxation, he should suggest tonnage dues on all articles coming into the port of London. By this plan the trades benefited by the embankment would pay. Mr. Pegg, of Bankside, who had premises abutting on the river, recommended an embankment and roadway. He was one of a commission some years ago appointed to raise Bankside. They did not raise it so much as they intended owing to the opposition of the wharfingers. He described the misery occasioned to the poor of the district as most shocking. The cost of construction was so great as to cause much opposition. Although not carried so high as was intended, it had done great good.

THE RAILWAYS OF THE WORLD.—A laborious and interesting statistical article on this subject appears in the *Engineer* of the 3rd instant, from which we select a few results. The actual extent of railway now open throughout the whole world is probably about 70,000 miles; and the capital expenditure nearly one billion one hundred and seventy millions sterling. This vast sum has almost wholly been raised and expended within twenty-five years. The share of this immense capital which this country and its colonies have expended appears to be upwards of four hundred and seventeen millions sterling; and the miles of open railway on which it has been expended amount to 14,277. On the continental railways, four hundred and seventy-six millions and a half sterling have been expended on 22,692 miles of open railway. On the North and South American continents, exclusive of British possessions, about two hundred and fifty-seven millions and a quarter sterling have been laid out on 32,102 miles of open railway. India is included, of course, with the British possessions. Thirty-four millions and nearly a half sterling have been expended in India on 1,408 miles of open railway; and upwards of twenty millions and a half in Canada, on 1,826 miles of open railway. Nearly ten millions have been already expended in Victoria, on 183 miles of open railway; but in such cases as those of Victoria and India, works in progress are included in the expenditure named. France has expended upwards of one hundred and eighty-four millions and a half on 6,147 miles of open railway; Prussia, forty-four millions and upwards on 3,162 miles of open railway; Austria, forty-five millions and a quarter on 3,165 miles; Spain, twenty-six millions on 1,450 miles; Italy, twenty-five millions on 1,350 miles; Russia, forty-three millions and upwards on 1,289 miles; Belgium, eighteen millions on 955 miles; Switzerland, ten millions on 600 miles: Egypt, four millions on 204 miles; the United States, one hundred and ninety-three millions and a half on 22,384 miles; the confederate states, nearly forty-nine millions on 8,784 miles; Brazil, five millions on 111 miles and others in progress; and so on.

STATUE OF SCHELLING AT MUNICH.—On the King of Bavaria's birthday a statue of Schelling was inaugurated in the Maximilian's Strasse, in front of the National Museum. There are to be eight figures placed on the top of that Museum, to represent the eight districts of Bavaria. The statue of Schelling is the work of Brugger, to whom, also, Munich is indebted for the statue of Max Emmanuel.

CRYSTAL PALACE FOR THE PARISIANS.—A *société anonyme*, with a capital of 25,000,000 francs, is in course of formation for the construction of a "palais de cristal" in the Bois de Boulogne. The council of administration comprises a number of gentlemen well known both in France and this country—the French portion including the Marquis de la Roche-Aymon, Count de Santivy, the Marquis de Monclar, M. Pasqualini, and Prince A. Galitzin; and the English portion, Messrs. S. Beale, M.P., T. N. Farquhar, and Wm. Jackson, M.P. Sir Joseph Paxton has accepted the office of architect in chief; Mr. Edwin Clarke that of consulting engineer; and Mr. Thomas Brassey that of contractor-general. It is intended to make the Palace specially attractive by concentrating within it magnificent halls for public entertainments, and a vast nave for the exhibition of fine arts, manufactures, and horticulture. Balls, concerts, art-festivals, literary and national reunions, will find accommodation worthy of the advancement of the age. The exhibitions will be permanent.

THE CAMBRIDGE SCHOOL OF ART.—A lecture was delivered on the 2nd instant to this school, by the Rev. W. J. Beamont, of Trinity College, on "The Advantages and Use of a Knowledge of Art to the Working Classes." The lecturer commenced by a definition of the word *art* as opposed to *nature*. Art, he said, meant simply skill; and, as it could not be denied that the works of nature had a superhuman skill applied in their construction, we had the anomaly that nature was art. The lecturer distinguished between a man who acted merely as a machine and the man who acted as an artist. He took the case of a man building the wall of a house. One man might put brick upon brick, and complete a substantial wall which would serve every practical purpose for which it was required, but that man as a consequence would not be an artist. But the man who used grace in building the wall, and endeavoured to impart somewhat of a good appearance to it, in addition to making it substantial, might be termed an artist. This point of difference between the two was, that one made his work graceful, whilst the other did not endeavour to impart grace. Mr. Beamont then spoke of art in the advantages it imparted, both as a means of healthy recreation, of mental refinement, and also of that more vulgar pursuit,—money-making. For the encouragement of his audience, he told them of many eminent artists who had risen from the masses; and that, too, in many cases, solely by perseverance and self-tuition. All, no doubt, would not become great artists, but some might, and those who did not would learn something.

GERMAN VENEER-CUTTING MACHINES.—At a meeting of the Institution of Engineers in Scotland, held on 11th ult., a description was given by Mr. D. More, of a German veneer-cutting machine of a much improved description, which had been set to work in St. James's-road, Glasgow, by a Hamburg firm named Prale & Balheimer. This machine cuts veneers not by a circular saw, but by a very fine, thin, straight one, placed vertically, with the teeth downwards, but shaped to act similarly in both directions: they resemble lancet-points projecting at short intervals from a straight edge, and are very slightly set alternately to opposite sides. The saw-blade, after it comes from the maker is *planed*—not ground—to as perfect an equality of thinness as possible; and it is firmly guided by being made to work upon the inner vertical face of a knife-shaped guide, the knife-edge being directed downwards, and the saw-teeth projecting just sufficiently below its bottom edge to take the cut, whilst the veneer comes away on the outside of the guide, just as if cut by the guide. A slight convexity inwards is given to the guiding surface, so as to prevent the saw-blade from springing, as it did from a flat-surfaced knife-guide. In the discussion which took place, Mr. More said that it used to be thought that eleven veneers out of the inch was good work, and that when twelve per inch were got out of a log, it was considered a great thing; but this new machine seemed to be able to take upwards of thirty clefts out of an inch of wood, and even fourteen and fifteen of as great thickness as formerly the ten and eleven were.

FATAL ACCIDENT AT ST. MARTIN'S HALL.—While seven workmen were employed on a stage inside the hall, where a chandelier had to be put up by Mr. Defries; the stage, which was 40 feet from the floor, and suspended by ropes from the roof, gave way, and six of the poor fellows were precipitated to the ground, among the planks, and so severely injured that three of them died, and it is doubtful whether any of them will recover. The foreman had a narrow escape; having caught hold of an iron rod which projected from the funnel of the chandelier, and of which he kept hold till extricated from his most perilous position. Mr. Defries states that none of his workmen were in the building, and that he had nothing to do with the erection of the scaffolding. The inquest is in progress.

GIVE EVERY ONE HIS OWN.—The *American Gas-Light Journal* has the following obliging paragraph under the heading, "Pillaging the London 'Builder'":—"This most excellent paper says that a copy of the New York *Builder* was sent to it lately with five articles transferred bodily to its columns, without acknowledgment; and 'another American art-paper usually takes two or three, acknowledging one only.' We should very much like to know the name of the 'other American art-paper,' for we would advertise it *gratis*. What would the London *Builder* say, if three or four pages of expensive and laboriously compiled tables were lifted clean out of its sheets and put into the boots of a contemporary without the least sign of a label to designate its origin? or, again, to have a valuable editorial re-hashed, turned over, omelette-fashion, and served up at second table by another editor? We copy largely from the *Builder*, but always with credit, pleasure, and benefit. It is without a superior, and with very few equals in any country."

WORKING CLASS RESIDENCES.—At a meeting of the Manchester Literary and Philosophical Society, on the 24th ult., according to the printed transactions of the Society, Mr. Isaac Holden read a paper "On the Effects produced by the Character of their Residences upon the Physical and Moral Condition of the Working Classes." Mr. Holden believed that, although considerable attention had been given to the building of cottages, sufficient progress had not yet been made in making them comfortable and attractive to the inmates. The interest of the paper consisted in the facts detailed connected with the subject. Mr. Holden particularly dwelt on the present most imperfect method of dealing with the refuse of towns, and the great evils that resulted from its accumulation near every house. Mr. Henry Ashworth stated that a firm near Bolton had considered it their interest to erect for their workpeople cottages of a superior class, mostly containing three bedrooms, and in other respects commodious and convenient. They were let at a rental of six per cent on the outlay, and were in great requisition. The beneficial effects on the social and moral condition of the tenants was undoubted.

THE "LANCET" AND THE RAILWAYS.—A commission "On the Influence of Railway Travelling on Public Health" is reporting the results of its investigations in the *Lancet*. Amongst the causes of collisions and other accidents, the report gives a prominent place to want of sleep, and consequent exhaustion and incapacity, on the part of drivers, guards, and signal-men, from the culpably long hours they are obliged or allowed to work at a stretch, and that not occasionally merely, but as a general practice. The public ought to support the endeavours of engine-drivers and other railway *employés* to obtain shorter hours. But a no less pernicious practice than that of compelling such persons to be from sixteen to eighteen hours, and frequently for twenty-four, thirty-six, and forty-eight hours, and even for three days and a night, on duty, without a night's rest, is the practice of paying by time, and so tempting the men to similar practices. The reporters quote a report by Mr. W. Bridges Adams, the railway engineer, on the peculiar motion of railway carriages and engines on the rails, in which he enters into a minute and scientific consideration of the causes of vibration and its consequences; in course of which he points out the differences between the motion of wheeled carriages on common roads, and that of the fixed axles and wheels, or rollers, used on railways. Mr. Adams then sums up his report thus:—"The first thing to do is to settle the quarrel between wheel and rail, which, as Stephenson said, should be as man and wife, but at present are a very ill-assorted couple. All other improvements are comparatively valueless as regards the influence produced on passengers, till this improvement shall have been carried into effect."

BRUSSELS TOWN-HALL COMPETITION.—Complaints are loudly expressed by English architects who submitted designs, that no official information of the result is obtainable. Our correspondent in Brussels gives us a very indistinct account of the affair. It is stated that the third premium was awarded to an English architect.

THE NEW STREET FROM WHITECHAPEL TO SHOREDITCH.—Building operations have been begun on the above new line of street by the contractors who, a short time ago, purchased various plots of ground from the Improvement Commissioners, by whom they were put up to auction.

INTERESTING DISCOVERY AT RIPON.—Mr. H. C. Sharpin has had the satisfaction of bringing to light the long buried "Kangel Cross," being one of the ancient crosses erected for the purpose of marking the boundary of the sanctuary granted by King Athelstan, in the year 924, to the church of Ripon, and of which "Sharow Cross" has been until now the only one in existence.

METROPOLITAN RAILWAY WORKS.—A complimentary dinner was given on new year's eve to Mr. Thomas Cordell, agent to Mr. J. Jay, for his kindness to all those under his control; when eighty of the clerks, foremen, &c., sat down. Mr. Harding presided, and the vice-chair was taken by Mr. W. McCloud. After the usual loyal toasts, that of Mr. Fowler and the engineering staff of the line was responded to by Mr. W. Morton; after which the health of Mr. Jay was drunk; and then came the toast of the evening, Mr. Thomas Cordell, who made a fitting reply.

PARIS AND LONDON HOSPITALS.—A discussion has taken place at the Académie de Médecine, Paris, on the relative sanitary condition of the hospitals of Paris and London; and very different opinions were expressed on the subject, some speakers maintaining that the London hospitals were superior in this respect to the Parisian, and others holding the contrary. If the Paris hospitals are not better than the English, they must be bad indeed. Such a result must be attributable, to the superiority of the English practitioners.

GORE'S IMPROVED GAS AND WATER-PIPES.—The waste of gas in London and other towns from inefficient jointage in the pipes is the least of a serious evil, which demands a remedy far more on account of sanitary considerations than of economic. The improved pipes under notice appear to be well adapted to supply the requisite desideratum. The joints are on the male and female joggle principle; the jointing ring of the one piece entering between two ringed walls in the other, after smearing with a cement which makes all complete. The tubes can be made either of earthenware or of cast iron, the earthenware being, of course, much cheaper than the iron, and equally effective as regards the jointing.

EACAVATIONS IN ROME.—A letter from Rome, in the *Correspondance Littéraire*, contains the following:—"M. Rosa continues his excavations in the Farnese gardens here. At the beginning of the month the workmen laid bare what is supposed to be the Academia, or lecture-room, mentioned by Pliny and other writers. The interior has been completely cleared, so that the seats, rising one above another, and the niches for statues, are visible. Between the Academia and the Baths of Livia, the excavators are now uncovering a number of large vaults, with broken arches; and have found fragments of mosaics and remnants of walls and pilasters built of brick. The works are also progressing near the Via Sacra, and the ruins begin to assume a most imposing aspect. Several fine fragments of marble columns, Corinthian capitals, &c., have been dug up."

BESSEMER STEEL.—At the meeting of the Manchester Literary and Philosophical Society, held on the 24th ult., Mr. Brockbank exhibited some samples of steel manufactured by Mr. Bessemer's process. These specimens, report the printed Transactions of the Society, had been bent and twisted cold, and showed a remarkable degree of ductility. He stated that the Bessemer steel was one of the most plastic and manageable of metals,—more so even than copper. It could be bent, flanged, or twisted, either hot or cold, without annealing, and over a considerable range of temperature, which is not the case with ordinary steel or copper. A plate of 18 inches diameter had been forced through a series of dies until it formed a tube 13 feet long and $1\frac{3}{4}$ inch diameter, without any crack or flaw. In drilling a circular hole into a plate, continuous shavings are formed; whereas in copper, Low Moor plates, or any other metal, the shavings break into pieces $\frac{1}{16}$ inch long. Thin sheets of Bessemer soft steel can be bent backwards and forwards hundreds of times without a fracture, and are almost as flexible as paper.